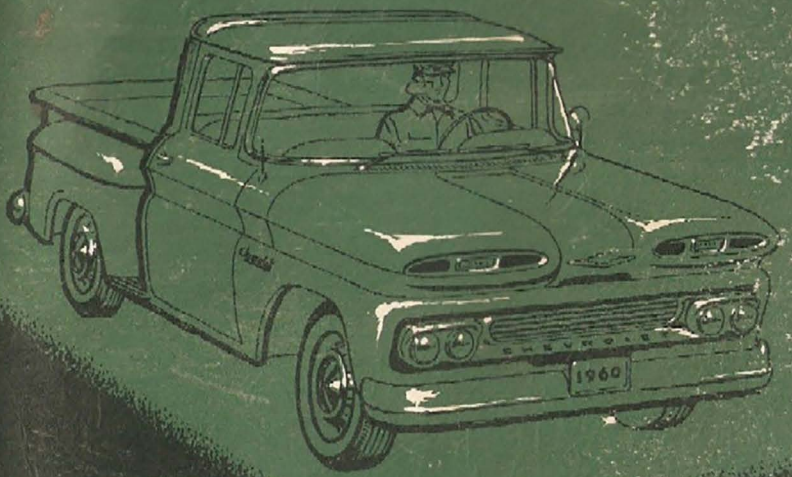
1960

CHEVROLET

TRUCK



OPERATOR'S MANUAL

OPERATORS MANUAL

FOR 1960

CHEVROLET

Light, Medium and Heavy Duty

TRUCKS

This operator's and owner's manual has been prepared to furnish information pertaining to the driving, care and maintenance of Chevrolet trucks as well as to provide technical data that may be of value or interest to truck owners.

The subject contents below is a ready reference to the key subjects and will assist in finding any subject covered in this booklet. An index is provided at the rear of this booklet to cover all items described and give their respective page numbers.

All information, illustrations, service procedures and specifications contained in this literature are based on the latest product information available at the time of publication approval. The right is reserved to make changes at any time without notice.

Subject Contents

CHEVROLET MOTOR DIVISION

GENERAL MOTORS CORPORATION

DETROIT 2, MICHIGAN

Second Edition Part Number 3769454 LITHO IN U.S.A.

PRELIMINARY POINTERS

Proper operation of this vehicle for the first few hundred miles will contribute greatly to longer life and add much to its future performance and economy of operation.

If not properly maintained and wisely operated, your truck can lose much of its efficiency and performance which it is capable of supplying.

The following are maintenance hints and driving tips to aid you in realizing the maximum in efficiency and economy from your Chevrolet truck:

- It is recommended that the maximum speed be confined to 50 miles per hour for the first 500 miles.
- Use the lowest gear ratio available when starting up with heavy loads and climbing grades to avoid "over-taxing" the engine.
- Avoid driving for extended periods at any one constant speed, either slow or fast.
- Avoid full throttle starts and severe application of the brakes in stopping.
- Continuous driving at high speeds should not be done until the truck has been driven 2000 miles.
- Drive at reasonable lower speeds until engine has warmed up.
- Hill and mountain driving requires more gasoline. A carburetor adjusted for sea level driving becomes extremely wasteful at 5000 feet or more altitude.
- The engine should be regularly "tuned-up" so that power robbing conditions, which may develop so gradually that they are not noticed, may be found and corrected. Faulty spark plugs, for instance, can waste as much as one gallon of gasoline in every ten.
- Use only highest quality fuel. Poor quality gasoline, whether Regular or Premium, may introduce harmful deposits into the engine.
- Use a good grade of proper viscosity engine oil. Too heavy an oil wastes gasoline.
- Have the air cleaner cleaned and reoiled, or replaced according to recommendation. A dirty air cleaner can reduce mileage by as much as 10 per cent.
- The front wheel and tire assemblies should be balanced periodically to provide a more comfortable ride and prevent improper tire wear.

Such care in operating your new truck will assure proper mating-in of all the running surfaces of the moving parts of the engine, transmission and rear axle.

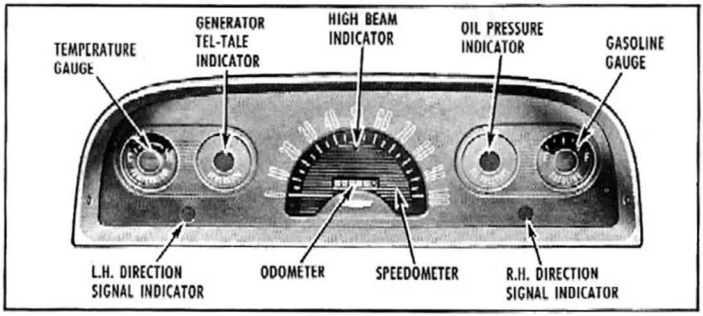


Fig. 1—Instrument Cluster—½-2 Ton Standard Models

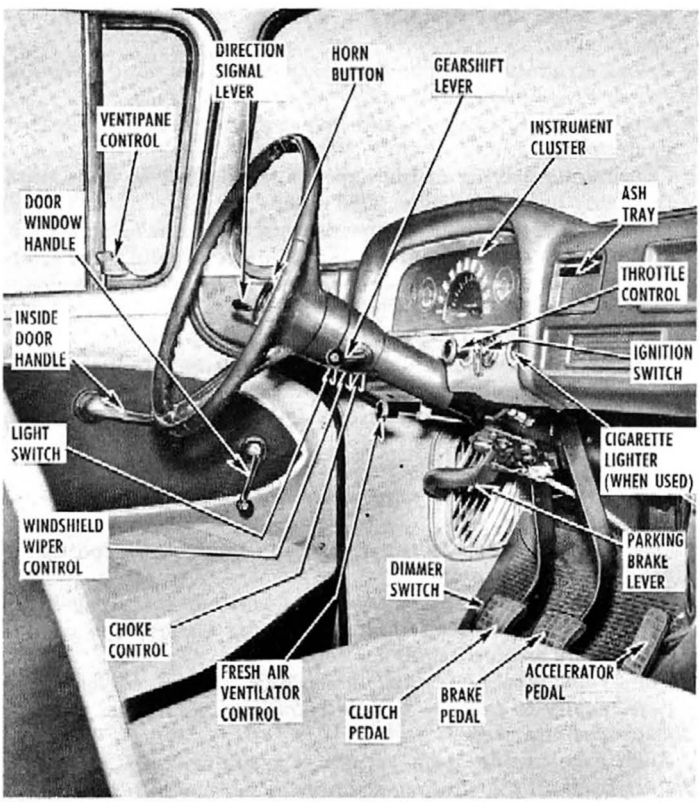


Fig. 2—Controls—½-2 Ton Standard Models

INSTRUMENTS AND CONTROLS

The type, location and operation of instruments and controls vary on different models and different series trucks. Therefore, regardless of past experience an owner or driver may have had, it is advisable to familiarize yourself with the instruments and controls and their use before driving this new truck. As several different instrument groups and dash panel assemblies are used, the paragraph concerning each item will describe the operation or use of that item and will not attempt to describe location. The location of all instruments and controls will be shown in various illustrations on the following pages.

STANDARD INSTRUMENTS

GASOLINE GAUGE

The electrically operated gasoline gauge is wired through the ignition switch and will only indicate the amount of fuel in the tank when the ignition switch is turned on. As this gauge utilizes a "balanced needle" for greater accuracy, the gauge needle will not necessarily return to the empty position with the ignition switch off. The needle may stop in the center of the gauge or go off at either end when the ignition switch is turned off.

TEMPERATURE GAUGE

The water temperature gauge may register anywhere in the band between the two marks ("C" and "H") and still indicate normal operating temperatures. Hot weather, long hard driving, or prolonged idling may cause the needle to be in the high range of the gauge. However, if the needle moves clear to the "H" hot end of the gauge, stop the engine until the cause of overheating is determined. As this gauge utilizes a "balanced needle" for greater accuracy, the gauge needle will not necessarily return to the "cold" position when ignition is turned off. The needle may stay in the center of the gauge or go off at either end when the ignition switch is turned off.

NOTE: Do not remove the radiator cap when engine is excessively hot, do not put water in an overheated engine, and do not run engine when indicator is above "H".

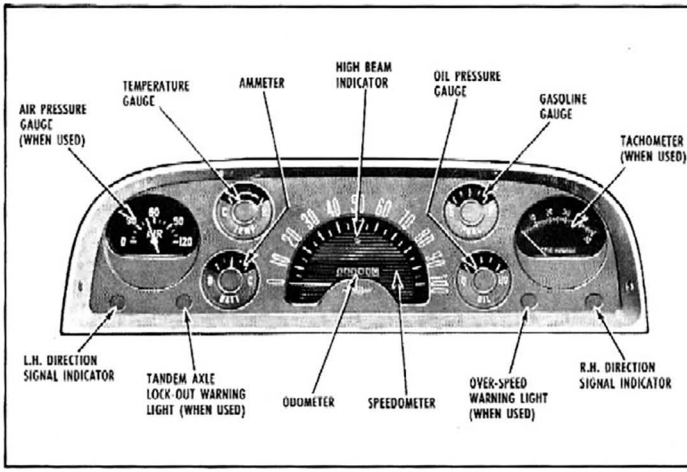


Fig. 3—Instrument Cluster-2½ Ton Standard Models

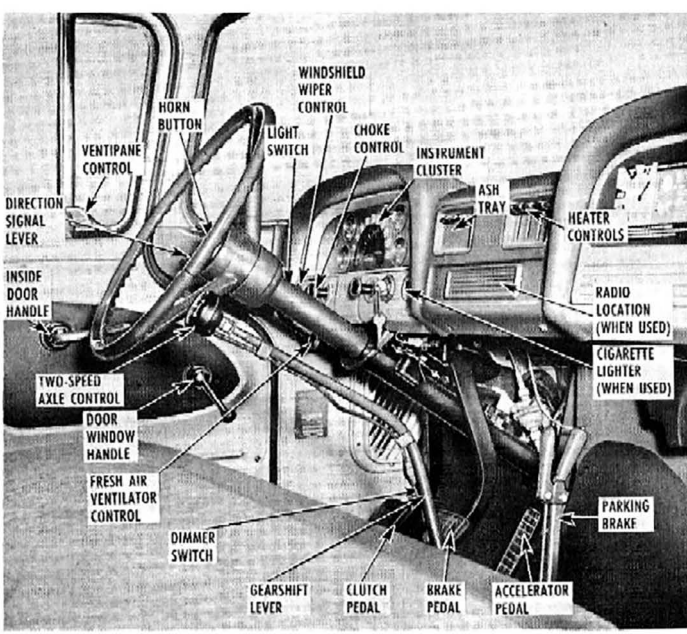


Fig. 4—Controls-2½ Ton Standard Models

AMMETER OR GENERATOR TEL-TALE LIGHT

One of these two units will be used in this vehicle. The lighter trucks use a generator tel-tale light while the heavier series use the ammeter.

The ammeter indicates the flow of current to and from the battery, except for the current taken by the starting motor.

The generator tel-tale light indicates generator operation.

Should the ammeter show discharge, or the tel-tale light remain on when the truck is being driven at medium speed, trouble is indicated in the charging system and the battery will soon become discharged. Under most driving conditions the tel-tale light should remain off or the ammeter should show some charging rate. The charging rate shown on an ammeter with a fully charged battery may be so slight that the needle may appear to remain centered on the gauge and not move away from the gauge center mark.

NOTE: With the engine idling, and the battery charged, the ammeter may show slight discharge or the tel-tale light may "flicker" or remain on.

OIL PRESSURE GAUGE OR INDICATOR

This vehicle will be equipped with one of these two units. The oil pressure gauge is used in the heavier series trucks while the oil pressure indicator (warning light) will be used in the light trucks.

Both of these units indicate whether or not the oil pump is operating, but do not indicate the amount of oil in the crankcase. In addition, the oil pressure gauge gives an indication of oil pressure in the lubrication system.

A low gauge reading is normal at idling speeds with a warm engine and light body oil; however, as the engine speed is increased, the hand on the gauge should register near the center of the gauge, or the indicator light should go out. In cold weather (especially with heavy body oil) the hand (only on vehicles so equipped) may move over to the "60" mark at comparatively low engine speeds. If so, run the engine just above idling speed until the hand drops to around the center of the gauge before driving the vehicle.

NOTE: If gauge does not show any pressure or indicator light stays on, stop the engine immediately and determine the cause.

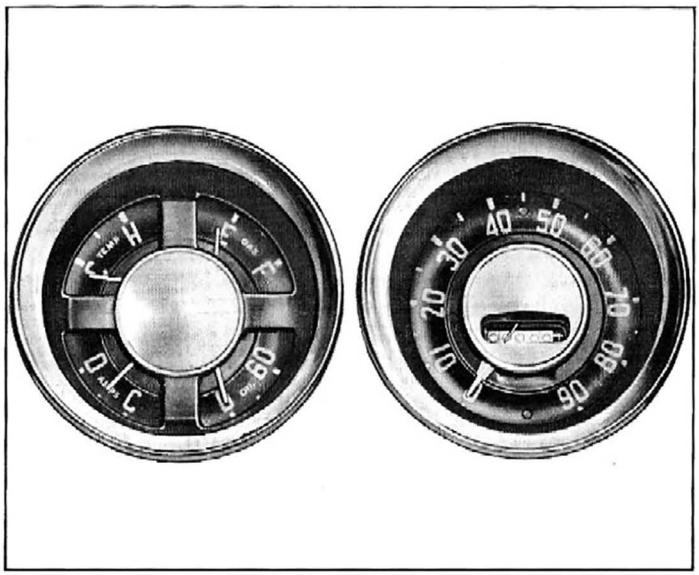


Fig. 5—Instruments—Flat Face Cowl Models (Typical)

This tel-tale light, and all other tel-tale lights used, will light when the ignition switch is turned on. This is done so that bulb operation can be checked.

SPEEDOMETER

The speedometer hand moves around the dial indicating the speed of the vehicle in miles-per-hour.

Odometer

The group of six figures in the speedometer lower center section indicate the total mileage the truck has been driven.

HEADLIGHT BEAM INDICATOR

A red indicator light is wired into the dimmer switch so that when the headlights are on upper beam, the indicator light will be on.

OVERSPEED WARNING LIGHT

As standard equipment on several larger series trucks and optional equipment on certain others, a red light warns of excessive engine speed on overrun on V8 engines. As a check to be certain that the bulb works, this light is so wired that it turns on at the instant the ignition switch is turned on and goes off after the engine has started.

OPTIONAL INSTRUMENTS

AIR PRESSURE GAUGE

This gauge is used to indicate the air pressure in the full air brake system or the air over hydraulic system. Do not attempt to operate the vehicle unless pressure has built up to 60 psi or more.

Low Pressure Indicator

A warning buzzer, mounted under the dash operates when air pressure in the brake system falls below 60 psi. When first starting the vehicle, the warning buzzer will sound until pressure has built up. When the desired pressure has been reached, the buzzer will shut off. If the buzzer operates under normal driving, bring the vehicle to a controlled stop and locate and correct trouble before proceeding.

NOTE: Do not operate vehicle while buzzer is operating as brakes are not in proper operating condition.

TACHOMETER

The tachometer (when installed) indicates engine speed in revolutions per minute. The scale reads 10, 20, 30, etc. By adding two zeroes after the reading, the indicated engine speed will become 1000, 2000, 3000, etc.

VACUUM GAUGE

This gauge (when installed) indicates engine vacuum. Proper interpretation of the gauge readings will indicate engine condition, and in many instances show the way to more economical operation.

CHOKE CONTROL

The carburetor hand choke control knob is used to close or partially close the carburetor choke valve. This restricts the air intake and produces a richer fuel mixture for starting, while at the same time opening the throttle by means of a fast idle link on the carburetor except on those models equipped with an updraft carburetor.

When the engine is warm, and the outside air temperature is warm, it should not be necessary to use the choke when starting the engine. When it is necessary to use the choke for starting, it should be pushed part way in as soon as the engine starts and all the way in as soon as the engine will run smoothly without its use.

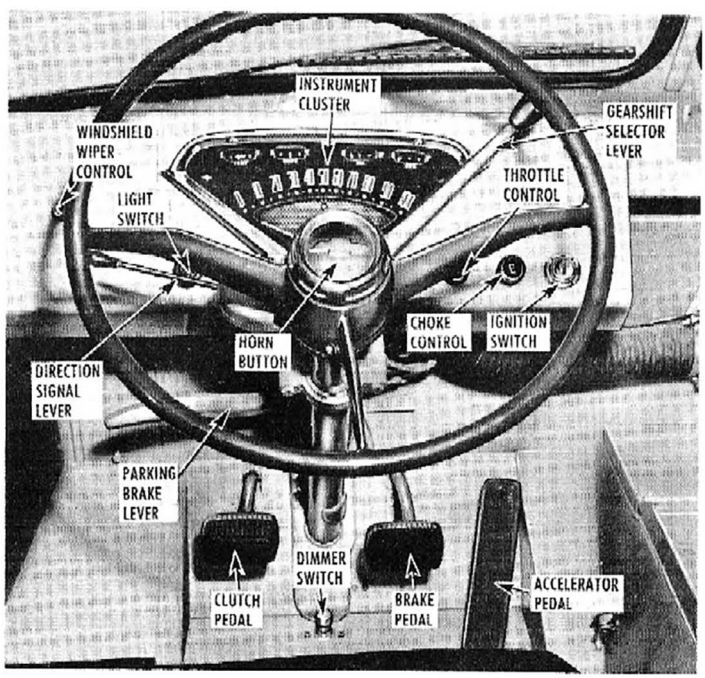


Fig. 6—Instruments and Controls—Forward Control Models (Typical)

***CAUTION:** Excessive use of the choke will provide a fuel-air mixture too rich to burn. Some of this unburned fuel will leak past the pistons and dilute the engine oil. This will cause improper lubrication, excessive engine wear and poor performance.*

HAND THROTTLE CONTROL

Pulling out on the control knob opens the carburetor throttle to provide a uniform (constant until knob is pulled out further, or pushed in to any position) engine speed above the idle setting. It is generally advisable to pull the hand throttle control out slightly when starting the engine, especially if the engine has a tendency to stall a time or two after starting.

ACCELERATOR PEDAL

The accelerator pedal is used to open and close, as required, the carburetor throttle valve to vary vehicle engine speed.

CLUTCH PEDAL

On models equipped with 3-, 4- or 5-speed transmission, a clutch pedal is used to engage or disengage the clutch, thereby connecting the engine to or disconnecting it from the transmission and driveline to rear wheels. When the pedal is fully depressed, the clutch is released allowing the transmission to be shifted. When the pedal is fully extended the clutch is engaged giving drive to the transmission and through to the rear wheels.

BRAKE PEDAL

Depressing the brake pedal applies the service brakes at all wheels in proportion to the pressure applied to the pedal.

PARKING BRAKE CONTROL

Two different parking brake controls are used depending upon the series truck and equipment installed.

On one line of trucks, a control lever extending up from the center section of the front floor is used. By pulling straight back on the lever, the parking brakes are applied. To release the brakes, squeeze the movable lever at the top of the control and at the same time, push forward.

The other one used, is a trigger type lever mounted to the left of the steering column under the instrument panel. To apply the brakes, pull back on the lever. To release, squeeze the "pistol" type trigger and push forward.

GEAR SHIFT LEVER

The gearshift control on trucks equipped with 3-speed transmission is located on the steering column. This control is used in the conventional "H" pattern as explained under "Operating Instructions" to shift the transmission to the desired ratio.

The gearshift control for vehicles with the 4- or 5-speed transmission is located in the center section of the front floor. The shifting pattern for each transmission is shown on top of the control lever knob. See "Operating Instructions" for the specific transmission used.

The control lever for vehicles equipped with four wheel drive is mounted next to the transmission control lever. This control is used to select the different axle drives.

IGNITION SWITCH (STARTER CONTROL)

Ignition key starting is provided on all models. Turning the ignition key to the full clockwise position engages the starting motor pinion with the teeth in the engine flywheel and closes the starter switch to provide an electrical circuit between the battery and starting motor, thereby cranking the engine. The starting motor draws considerable current from the battery, therefore, it should not be operated for more than 15 seconds at a time. If the engine does not start, locate the cause and correct it before the battery is run down.

CAUTION: The key must be released as soon as the engine starts and should never be turned to the "start" position when the engine is running or serious damage may result.

WINDSHIELD WIPER SWITCH

Start wiper by turning knob clockwise. Full counterclockwise position turns wiper off. The electric wiper has two positions—OFF and ON. When the wipers are turned off, they will return to the inner end of wiper cycle.

CAUTION: In icy weather, never attempt to operate electric wipers if blades are frozen to the windshield. Free the blades before operation of wipers.

LIGHTING SWITCH

The lighting switch controls the instrument lamps, headlamps, parking lamps, taillamp and interior lamp.

When this switch is pulled out to the first "on" position, the instrument lamps, parking lamps and tail lamp are lighted. When the switch is pulled out to the last position, the headlamps replace the parking lamps.

The interior lamp is turned on by rotating the knob all the way counterclockwise beyond the point where a slight resistance to turning is encountered.

DIMMER SWITCH

The dimmer switch is used to change the headlamp beam from "high" to "low" or "low" to "high." Each time the switch is depressed, the light beam is reversed. A headlamp beam indicator, on the face of the speedometer will become illuminated when the headlamps are on "high" beam. Avoid the use of upper ("high") beam when meeting other vehicles on the highway or in city traffic.

HORN BUTTON

The horn button is conveniently located at the center of the steering wheel. Depressing this button grounds out the horn circuit causing the horns to operate.

COWL VENTILATOR CONTROL KNOBS

Two knobs are used to open and close the dampers in the ventilating system. Pull knob(s) out to admit outside air, push knob(s) in to shut off air.

WINDOW REGULATORS AND HANDLES

The door windows are opened and closed by turning the handles from within the vehicle.

DOOR VENTIPANE AND HANDLES

These are operated directly by a turn down catch handle. A spring loaded friction device in the ventilator lower pivot holds the ventilator open to any position selected. Rain deflectors are used over the ventipane to prevent entry of water.

SEAT ADJUSTERS

The entire seat assembly can be moved forward or rearward to obtain the most comfortable position for the driver. As the seat is moved forward it raises and tips forward. As it is moved

back it is lowered to accommodate a tall person. Press down on the lever (fig. 7) to release the seat adjuster lock so that the seat assembly can be moved forward or rearward as desired. A coil tension spring assists in moving the seat forward. A seat back adjustment is provided on some models. To adjust seat back, tilt seat forward, loosen bottom locking nut, adjust bumper (fig. 7) to suit, then tighten bottom locking nut. Repeat for opposite side.

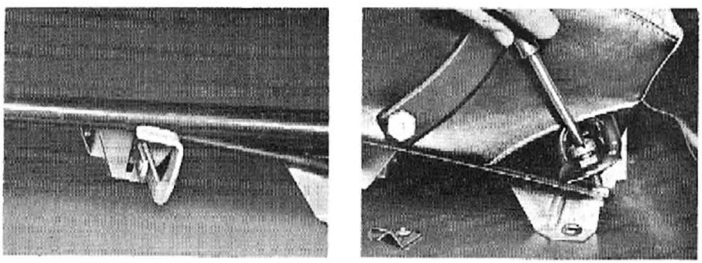


Fig. 7—Seat Adjuster and Seat Back Adjustment

HOOD LOCK AND SAFETY CATCH

The hood is of the "alligator jaw" type and is held closed by a lock at the front. This lock can be released by reaching in above the upper grille bar in line with the right end of emblem and pulling the lever forward (fig. 8), the hood may then be lifted. To close the hood, lower it from a completely open position with a firm downward movement to lock it. When the truck is in motion, the cam type lock permits only downward movement of the hood with a wedging action that provides positive locking.

Fig. 8—Hood Lock

TANDEM AXLE CONTROL SWITCH AND WARNING LIGHT

All models with the tandem axle have a differential lock-out. This provision permits the driver to temporarily lock out the differential action between the two axles and provide maxi-

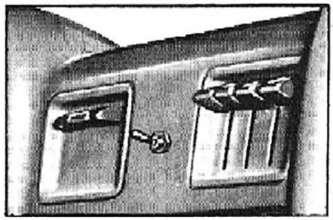


Fig. 9—Tandem Axle Lockout Control Switch

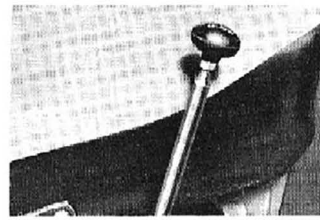


Fig. 10—Auxiliary Transmission Selector Lever

mum traction when the road, or operating conditions are unfavorable.

The differential lock-out control consists of a toggle switch and a red warning light located on the instrument panel (fig. 9). The warning light, when turned on, indicates to the driver that the differential is locked out.

> ***CAUTION: Do not operate this unit, with the differential locked out, on surfaces that provide sufficient traction. When differential is to be locked out, vehicle must be completely stopped.***

Auxiliary Transmission Shift Control Lever

This unit is for optional use on models with the tandem axle.

The control for this unit is mounted between the two front seats (fig. 10). The shift pattern is shown on the control lever knob.

OPTIONAL CONTROLS

TWO SPEED AXLE SWITCH

The shift control for the two speed axle is mounted on the transmission shift control lever.

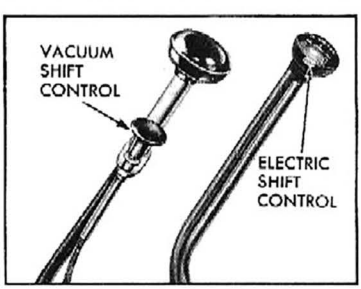


Fig. 11—Two Speed Axle Switches

In addition to shifting from "high" to "low" axle or "low" to "high" axle, it also shifts the speedometer adapter to maintain reasonably accurate speedometer and odometer reading regardless of the axle ratio used.

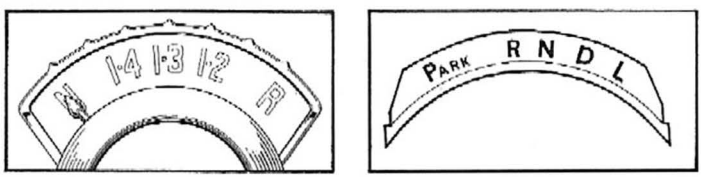
The vacuum shift control is operated by pulling the small knob on the side of the transmission control

lever up or down to change axle ratios (fig. 11).

The electric shift control is operated by moving a small thumb lever on the side of the transmission control lever knob forward or rearward to change axle ratio (fig. 11).

SHIFT CONTROL LEVER (AUTOMATIC TRANSMISSIONS)

The control lever for the Hydra-Matic and Powerglide transmissions is similar to the ones used in the conventional passenger car and is located at the top of the steering column on the right hand side. The operating positions are plainly marked on an indicator segment behind the steering wheel



Hydra-Matic *Powerglide*

Fig. 12—Automatic Transmission Shift Quadrants

The Powermatic selector lever is mounted on a transmission tower (fig. 13). The lever can be moved to select neutral, one of four speed ranges, or reverse. The positions are marked on top of the tower. A retarder brake pedal (fig. 14) is also utilized to place the transmission into a retarder range to assist in downhill braking, etc. A red warning light is used in conjunction with the retarder pedal to indicate excessive heat in the transmission fluid. If light goes on, release retarder pedal momentarily to allow fluid to cool.

NOTE: This light should go on when the ignition is turned on. This checks operation of the bulb.

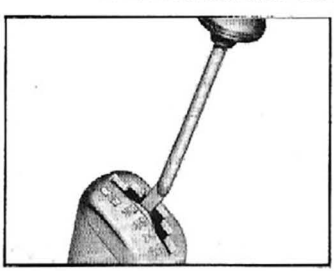


Fig. 13—Powermatic Selector Lever

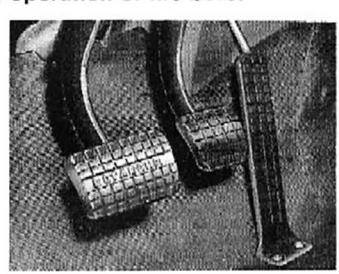


Fig. 14—Retarder Brake Pedal

FEATURES

STANDARD EQUIPMENT

ASH TRAY

A convenient tilt type ash tray is located in the center area of the instrument panel. The tray is opened by pushing it forward at the bottom and pulling it out at top. To remove the ash tray for emptying, depress the circular snuffer at top of tray and pull out. To replace, hook the lower inner edge of tray over retaining rod, and push in at top.

DOOR LOCKS

Chevrolet trucks are equipped with push-button, theft-resistant door locks which provide means of locking the cab when the truck is to be left unattended and also a means of locking it from the inside.

The door lock cylinder is located in the push button in the right door handle (fig. 15). The door is locked from outside by inserting a key in the push-button and turning it 90° so that the key is horizontal. In this position, the push-button cannot be depressed and the key slot remains horizontal even after the key is removed. When the key slot is in the vertical position, the door has not been locked.

To lock either door from the inside, it is only necessary to move the inside remote control handle forward (fig. 16). Pulling the inside handle to the rear unlocks the door even when it has been locked with a key.

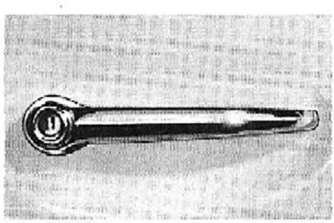


Fig. 15—Door Lock (Outside)

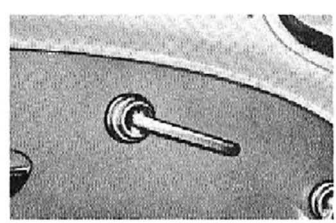


Fig. 16—Inside Door Handle

KEYS

Two identical (octagonal head) keys are furnished with each truck. These keys are used for locking and unlocking the right door, ignition switch and the package compartment (if so equipped). The key number is stamped on a "knockout" plug

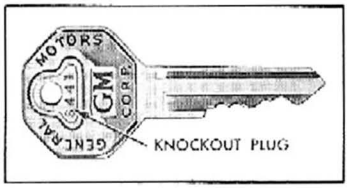
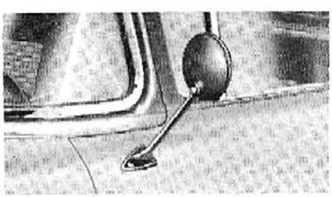


Fig. 17—Key

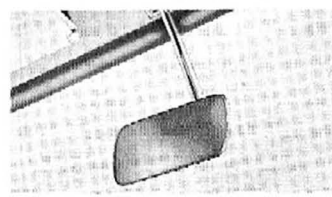
in each key (fig. 17). The dealer and the owner should make a record of this number so that the key can be easily replaced in case it is lost, and the "knock out" plug should be removed so that unauthorized persons cannot obtain the key number and have a duplicate made.

REAR VIEW MIRROR

An adjustable rear view mirror is mounted on the forward edge of the left door at the belt line, or optionally mounted (different style mirror) on the garnish molding above the center of the windshield. As the mirror in either case is swivel mounted, it may be adjusted to suit any driver (fig. 18).



Standard



Optional

Fig. 18—Rear View Mirrors

ACCESSORY OPERATION

Listed below are several optional accessory items requiring specific instructions for their use.

RADIO

This manually tuned radio (fig. 19) will give the same powerful, undistorted reception as found in the passenger car.

To operate the radio, proceed as follows:

- Turn Volume Control clockwise to turn on radio and increase volume. Moving the control counterclockwise reduces volume and turns off the radio.
- Turn Tuning Control Knob (Selector) to select desired station.
- Turn Tone Control Wing Knob (under Volume Control Knob) to give the tone preferred.

NOTE: For best reception, the antenna should be extended to at least the roof height of the cab, or to full height of antenna if equipped with van body, trailer body, etc.

HEATER

One of two heaters may be installed in the vehicle.
To operate the Deluxe heater proceed as follows (fig. 20):

To Heat

- Set HEAT Lever for the desired air temperature. Full "down" position will provide the maximum heat.

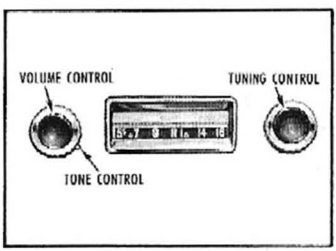


Fig. 19—Radio Controls

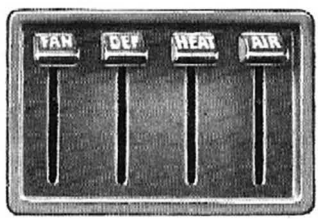


Fig. 20—Deluxe Heater Controls

- After the engine has warmed up, push the AIR lever fully "down" to allow air to pass through the heater. The "up" position of the AIR lever is the "air off" position.
- Move the FAN lever "down" to provide the desired air circulation. At lower vehicle speeds, operate the blower at "high" speed while regulating the heat with the HEAT lever. At higher vehicle speeds use "low" blower speed. For maximum heater performance, drive with all the windows and fresh air ventilators closed.

To Defrost

- Set heater panel controls as for heating.
- Push DEF lever full down to divert entire heated air flow to defroster ducts for extreme defrosting operation; set to detent position to divert only part of air flow for normal defogging operations.

Summer Ventilation

- For summer driving, the AIR lever may be pushed down to pass unheated air through the floor duct to augment that

supplied by the two side cowl vents (fresh air vents). The FAN lever may be used as desired. The DEF and HEAT levers should be in the full "up" position.

To operate the Recirculating Heater, proceed as follows:

- To heat, move the FAN lever down to control air flow and the HEAT lever down to control the temperature. Full "down" position provides maximum heat.
- To defrost, push DEF lever full "down" to divert entire heated air flow to defroster ducts for extreme defrosting operation; set lever to detent position to divert only part of air flow for normal defogging operations. Move the FAN lever down for desired air flow.

COOL PACK AIR CONDITIONING

The Cool Pack Air Conditioning unit operates on 100% recirculated air and is entirely independent of the heater (fig. 21). The air conditioning and heater units are not designed to operate at the same time.

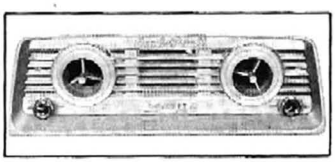


Fig. 21—Cool Pack Air Conditioning Controls

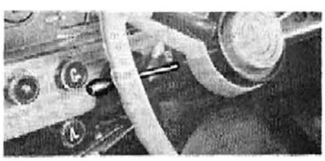


Fig. 22—Direction Signal Lever

- For the first 15 minutes of operation, rotate the FAN knob to "high" speed and the COOLER knob to full cooling position. Then readjust fan speed and cooling as desired.
- Adjust the louvers in the cooling unit to direct the cooled air as desired.

DIRECTION SIGNALS

The direction signal lever, located to the left of the steering column (fig. 22) allows a signal to be given by means of flashing lights at both the front and rear of the vehicle. Move the lever "down" before turning left or "up" before turning right. The lever will return to neutral when the turn is completed.

SAFETY HINT: A Safety Hazard Switch is available as an optional accessory to be used in the direction signal circuit to flash the signal lights for emergency road stops.

CIGARETTE LIGHTER

The cigarette lighter is located on the instrument panel face. To operate, push it in. When it becomes heated, it automatically "snaps" out ready for use.

WINDSHIELD WASHERS

To operate the washers, press the button in the center of the wiper control knob. This will send a stream of water, or other cleaning agent onto the windshield. Pressing the push button also causes the wiper knob to automatically turn to the "ON" position, and the wiper will operate until the knob is manually returned to its "OFF" position.

Keep the jar under the hood filled at all times. G. M. Windshield Washer Solvent, added to the water, will aid in cutting road film and grease on the windshield. Fill jar only ¾ full with G. M. Windshield Washer Anti-Freeze solution in winter.

OPERATING INSTRUCTIONS

PRE-STARTING INSPECTION

The following inspections are not necessary each time the vehicle is started providing the driver has recently driven the vehicle and is CERTAIN that attention is not required.

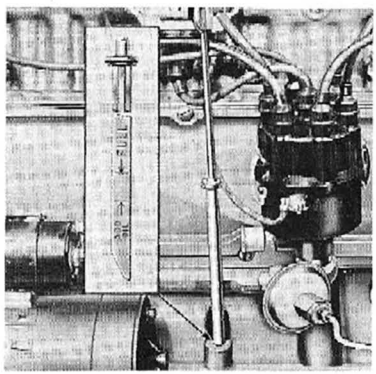


Fig. 23—Checking Engine Oil Level

1. Raise the hood, remove the oil gauge rod (fig. 23), wipe oil from rod with clean cloth and replace. Remove gauge rod and note level of oil. If down to the "add oil" mark, oil should be added. Replace oil gauge rod. See "Lubrication" for proper oil to be used.
2. Remove radiator cap and check the level of the coolant. If coolant is down a quart or more, water or anti-freeze should be added.
3. Check to be certain that the tires are properly inflated. Under-inflated tires wear rapidly and are subject to road damage.
4. The rear window, windshield, rear view mirror(s), headlights, tail lights and reflectors should be cleaned and in good operating condition to provide clear vision and good lights.
5. See special wheel nut tightening instructions in the "Maintenance" section of this booklet.

COLD WEATHER OPERATION

Cold weather may present many problems to the vehicle operator if the following steps are not performed.

1. The cooling system must be protected against freezing by the use of anti-freeze solutions (see "Cooling System").
2. Light oil should be used in the engine (see "Engine Lubrication").

3. The battery should be kept fully charged to provide the additional spark necessary to crank a cold engine. A discharged battery will freeze in extremely cold weather and make a replacement necessary.

4. The carburetor, fuel pump, lines and fuel tank should be kept free from water which will freeze and restrict fuel flow.

5. The ignition system should be kept in good condition.

6. Assuming that the above items have been given normal attention, the engine should start promptly, even in extremely cold weather. See below for instructions on starting the engine.

HOT WEATHER OPERATION

Hot weather does not generally present as many problems as cold weather, however, a little special attention will pay dividends in the form of economy and convenience.

1. Check the radiator regularly for sufficient coolant.

2. Make certain the fan belt is in good condition and properly adjusted.

3. Keep the radiator area free of bugs, leaves and other foreign material that may restrict air circulation.

4. Have the water level in the battery checked at 10 day intervals or oftener, if necessary.

5. Starting a cool engine in hot weather does not present a problem and the procedure outlined under "Starting the Engine" should be followed.

STARTING THE ENGINE

1. Pull choke knob out part way or all the way depending on climatic conditions to provide a proper air fuel mixture for starting and engine speed just above idle. Depressing accelerator pedal while pulling knob will allow easier operation of this control.

NOTE: If the engine is warm or in summer weather it is not generally necessary to use the choke at all. In extremely cold weather the choke should be pulled all the way out.

2. Make certain the transmission gear shift or selector lever is in neutral. (On automatic transmission models, engine will not start unless transmission is in neutral "N" position. Powerglide models may also be started in Park "P" position.) Depress the clutch pedal, if so equipped, to relieve the load in the transmission.

3. Place ignition key in switch and turn key clockwise to "ON" position.

4. Turn the ignition key clockwise against spring tension to crank engine. RELEASE KEY AS SOON AS ENGINE STARTS. If engine does not start in 5 to 10 seconds, release key and check to see if above instructions have been performed correctly.

5. As soon as engine starts, push choke knob in part way and adjust throttle for smooth idle.

6. Note oil gauge (or indicator) and ammeter (or generator indicator) readings. Ammeter should show some charge or light should be off unless engine is idling slowly. The oil gauge should show some pressure or indicator light should go out. On vehicles equipped with oil pressure light be certain light is off before continuing, if still on, stop engine and determine fault. On vehicles equipped with an oil pressure gauge, in unusually cold weather the oil gauge needle may move all the way over to "60". If so, run the engine just above idling speed until the indicator hand drops to around the center of the gauge before driving vehicle. The choke knob should be pushed in all the way as soon as the engine is sufficiently warmed up.

A hot engine is easily flooded and may start hard.

If the carburetor is flooded, proceed as follows:

a. Turn on ignition.

b. Pull hand throttle knob out about ½".

c. DO NOT pull choke knob out or step on accelerator.

d. Engage starter (by turning key clockwise against spring tension) without depressing accelerator.

e. When engine starts, release starter, but do not accelerate engine.

OPERATING THE:

SYNCHROMESH TRANSMISSION

Three-Speed – The gear shift control on trucks equipped with this transmission is located on the right side of the steering column. This transmission uses the conventional "H" shifting pattern as shown in Figure 24.

Four-Speed – On vehicles equipped with this transmission, the gearshift lever extends to the left and rearward from the transmission cover mound at center of the floor. This lever is used to shift the transmission gears to the desired position.

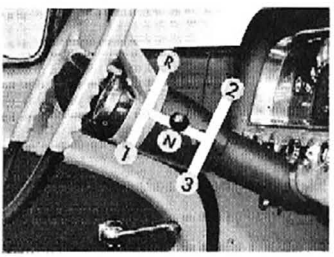


Fig. 24—Three-Speed Transmission Shift Pattern

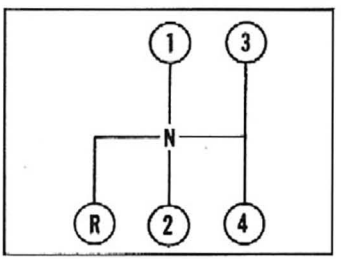


Fig. 25—Four-Speed Transmission Shift Pattern

Figure 25 shows the shifting pattern. This pattern is also shown on the control lever knob.

Five-Speed – When the vehicle is equipped with any one of the five-speed transmissions, the shifting pattern is shown on the shift control lever knob and in Figure 26. The control lever is in the same position as described above under "four-speed."

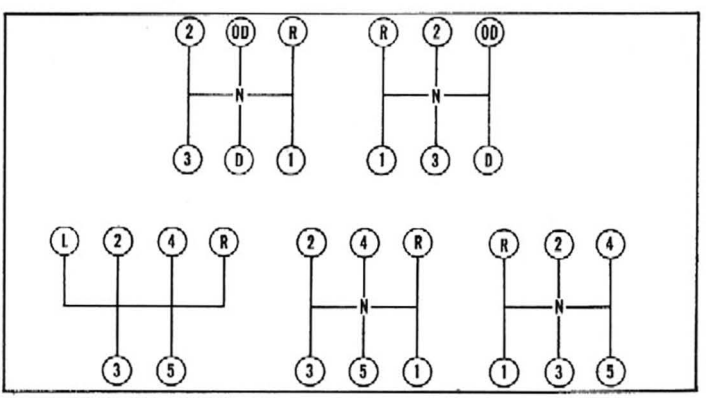


Fig. 26—Five-Speed Transmission Shift Patterns

AUTOMATIC TRANSMISSION

Powerglide

This optional transmission is a completely automatic unit which replaces the standard clutch and transmission. Selective control is obtained through the selector lever which is located on the right side of the steering column. The different ranges are indicated on a quadrant (fig. 27).

L–LOW – Use only when pulling through deep snow or sand, climbing or descending very steep hills, and for additional engine braking below 40 miles per hour on dry pavement.

D–DRIVE – For all normal driving. Transmission automatically selects the range best suited for almost every driving situation.

N–NEUTRAL – Allows engine to be operated (including starting) with vehicle standing still.

R–REVERSE – For backing up. Bring vehicle to a complete stop before selecting this position.

P–PARK – Applies mechanical lock in transmission. Holds the vehicle immovable, but engine can be started and idled in this position.

Normal Driving – Place selector lever in "D" position and depress the accelerator. Upon starting, the vehicle moves forward in automatic low range, changing to cruising range between 12 and 45 miles per hour depending on accelerator position. While cruising at speeds below approximately 45 mph, Powerglide will automatically change to low range when accelerator is fully depressed and overcomes the detent spring tension at bottom of its travel, giving maximum acceleration. At lower speeds but above 12 mph, this change may occur before accelerator is fully depressed. As the vehicle slows to a stop, the transmission changes to automatic low range at about 12 mph in readiness for the next start.

NOTE: The above road speeds are approximate and may vary with individual trucks.

Low Range Driving – "L" position should be used when climbing very steep grades at reduced speed or under heavy load, or when pulling through deep sand, snow, etc. At speeds

below 40 miles per hour, this range may be used to provide additional engine braking for descending steep grades on dry pavement or slowing down on slippery pavement below 12 mph.

Reverse Driving —"R" position reverses Powerglide for backing. Bring vehicle to complete stop, and with engine idling, move selector lever to "R" position.

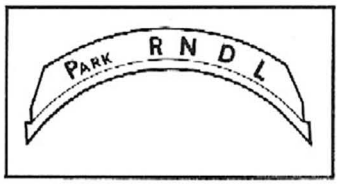


Fig. 27—Powerglide

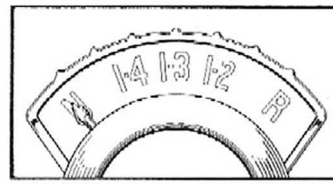


Fig. 28—Hydra-Matic

Automatic Transmission Shift Quadrants

Towing and Pushing Cautions – If your truck must be towed, place selector lever in "N" position. Do not exceed 30 miles per hour. If the transmission is not operating properly, the propeller shaft should be disconnected from the rear axle, or the rear wheels should be raised before any towing is attempted. Should it ever be necessary to start the engine by pushing the vehicle, place the selector lever in "N" until the vehicle reaches a minimum speed of 15 mph on a dry surface or 20 mph on a slippery road. Turn ignition to "ON" position and move selector lever to "L" position. When engine starts, move selector lever to "D".

Powerglide Driving Cautions

- Do not accelerate engine for over 10 seconds in "D", "L", or "R" when vehicle is held with brakes.
- When stopped on an upgrade, do not hold truck by accelerating engine. Use service brake.
- Move selector lever to "L" for extremely hard pulls at low road speed.
- Do not move selector lever from "D" to "L" at speeds over 40 mph.
- Never move selector lever to "R" when vehicle is moving forward, except when "rocking" in mud, snow, sand, etc.
- Engage "P" (parking gear) only when vehicle is completely stopped.

Hydra-Matic

On models equipped with this optional transmission, the indicator quadrant is located just below the steering wheel (fig. 28). Selection of the different operating ranges is made by a selector lever on the right side of the steering column. All shifting in the three forward drive ranges is completely automatic and is dependent on vehicle speed.

N—NEUTRAL – Allows engine to be operated and started with vehicle standing still.

1-4 – Used for all normal driving. Transmission automatically selects best range for proper operation.

1-3—This position provides better acceleration in congested traffic. It also provides additional braking when descending long grades or improves acceleration when ascending long grades.

1-2—This position is used for pulling through mud, snow, sand, etc., for moving up steep grades or for additional braking on steep grades. Also used to put vehicle in motion on icy roads.

R—REVERSE—For backing up. With engine off, this range also provides a mechanical lock in transmission to hold vehicle stationary.

Normal Driving—Place selector lever in "1-4" position and depress accelerator. The transmission will start out in low range "1", and will automatically shift through range "2", "3" and "4". This position will provide reduced engine speeds at cruising and will give better driving comfort and fuel economy. With normal truck speed, additional acceleration may be gained by depressing accelerator fully, past detent spring tension. The transmission will then select the next lower range to provide the additional acceleration. Upon reaching a higher speed or upon releasing of the accelerator, the transmission will shift back into range "4".

Normal Driving with Heavy Traffic—Position "1-3" is used for better acceleration when driving in congested traffic, as the transmission is not allowed to shift to range "4". This position may also be used when ascending or descending long grades. When using this position, increased acceleration may be gained by shifting to the next lower gear range as outlined above. Again, the shift into range "3" will automatically be made as truck speed increases, or the accelerator is partially released.

Shifting manually from "1-4" to "1-3" position can be made at any time on dry roads or from "1-3" to "1-4" position at any time.

Low Range Driving—The "1-2" position is used for pulling through mud, sand and snow, for going up steep grades or to provide additional braking on down grades. This position is also used to place vehicle in motion on icy roads. The operation in this position is similar to above. At a vehicle speed of less than 25 miles per hour, the shift from "1-4" or "1-3" position to the "1-2" position may be made to obtain braking by first releasing the accelerator, then moving the lever to the "1-2" position. Be certain road is clear and not slippery before attempting to make this shift. It is possible under 5 mph, to shift down from range "2" to range "1" by depressing accelerator as described above. The shift to range "2" will automatically be made when vehicle speed increases or pedal is partially released.

Reverse Driving—While it is advisable to be at a complete stop before engaging reverse, it is possible to shift into "R" position while vehicle is in slight (1 to 2 miles per hour) forward motion. Avoid engaging reverse at forward speeds above 1 to 2 mph. This permits moving the selector lever between "R" and any forward position with light accelerator pedal pressure allowing the vehicle to be "rocked" as required to move out from mud, snow, sand, etc. To place the selector lever into "R" position, it will be necessary to raise the lever to clear the detent stop. When moving the lever, while raised, from "R" (reverse) toward "N" (neutral), the lever will stop at the "1-4" position. This prevents unwanted "over-selecting" into "N" (neutral). When the engine is not running, a mechanical parking lock feature is provided when the selector lever is in "R" position.

Towing and Pushing Cautions—If it is necessary to start engine by pushing a short distance, operate hand choke as outlined under "Starting the Engine." Place selector lever in "N" (neutral) position. When vehicle speed reaches approximately 20 miles per hour, turn the ignition switch to "ON" and move transmission control lever to "1-4" position. If it is necessary to tow the vehicle, it must be done with the rear wheels off of the ground or the propeller shaft must be disconnected at the axle pinion shaft. If the vehicle is towed with the wheels on the ground and with the propeller shaft connected, the transmission will be damaged.

Hydra-Matic Driving Cautions—

- Do not coast with lever in "N" (neutral). Operating the vehicle in this manner may cause damage to the transmission.
- Under no circumstances should the control lever remain in any other position than "N" (neutral) when engine is idled longer than normal for driving. Do not leave the transmission in a "driving" range while making pick-up and deliveries, etc.
- When parking, use parking brake only. Reverse lock parking **is not recommended.**
- Do not accelerate engine for over 10 seconds in any driving gear when vehicle is held with brakes.
- When stopped on an upgrade, do not hold truck by accelerating engine. Use service brake.
- Move selector lever to "1-2" for extremely hard pulls at low road speed.
- Never move selector lever to "R" when vehicle is moving forward, except when "rocking" in mud, snow, sand, etc.

Powermatic

On models utilizing this optional transmission, the control lever is mounted on a transmission tower and can be moved to select neutral, any one of four forward speed ranges, or reverse. These positions, which are plainly marked on the tower (fig. 29), are as follows:

R—REVERSE—For backing up. Bring truck to a complete stop before selecting this position.

N—NEUTRAL—Allows engine to be operated (including starting) with vehicle standing still.

3—HI—For all normal driving. Transmission automatically selects the range best suited for almost every driving situation.

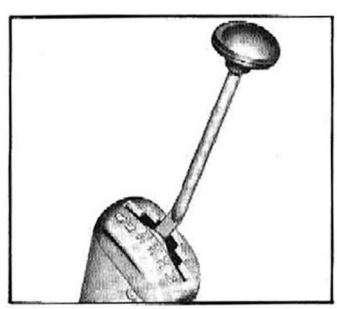


Fig. 29—Powermatic Selector Lever

3-5 – This position is used for downhill speed control and city traffic performance.

3-4 – This position is for heavy pulling, congested traffic and descending long grades.

LO–2 – This position is used for starting extra-heavy loads, and ascending or descending extremely steep grades or off highway driving. Also used to put vehicle in motion on icy roads.

Hydraulic Retarder

For additional braking on extremely steep grades and/or with extra-heavy loads, the hydraulic retarder (fig. 14) may be used along with the service brakes to slow down the vehicle. The hydraulic retarder can also be used for slowing down the vehicle on level ground and thus saving the service brakes. This action is 6 to 10 times greater than engine braking alone.

NOTE: This device cannot stop truck completely and must be used with care until operator is familiar with its operation.

Throttle Over-Control

To get greater forward speed in climbing variable grades, "floor" the gas pedal. This prevents automatic upshifts. The pedal must be pushed past "detent". When normal driving is regained, release pedal, and proceed in normal manner.

Normal Driving – The "Drive" range (3-HI) is used for normal starting and operating and is most satisfactory for truck operation. At engine idle, the truck remains standing still. Upon opening the throttle, the response is immediate. The transmission starts in converter and continues progressively and automatically into lockup and through the four ratios in this range. The vehicle operator determines the rate of acceleration by the pressure exerted on the accelerator pedal. If at any time during the shift cycle, the situation demands sudden acceleration or extra pulling power, a rapid downshift is accomplished by pushing the accelerator pedal through the "detent" resistance. The transmission will remain downshifted as long as the driver holds pedal past detent, and may downshift further but will not upshift until the pedal is slightly released to the detent position. Do not shift from "3-III" to "3-5" above 50 mph or with hydraulic retarder in operation.

Normal Driving with City Traffic – "3-5" range is used for greater flexibility in downhill speed control and extra convenience in city traffic. This range performs in the same manner as "3-HI" range but upshifts are limited to fifth gear so that the frequency of automatic downshifts in city traffic is reduced. Do not shift from "3-III" or "3-5" to "3-4" above 30 mph or with hydraulic retarder in operation.

Heavy Pulling, Congested Traffic Driving with Additional Downhill Braking – The "3-4" range is the performance range for heavy pulling, congested traffic operation and additional braking when descending long grades. In operation, this range performs in the same manner as "3-HI" range but upshifts are limited to fourth gear. Do not shift from "3-HI", "3-5" or "3-4" range to "LO-2" above 15 mph or with hydraulic retarder in operation. Do not attempt this shift while under way on icy roads.

Heavy Pulling under Extreme Operating Conditions – The "LO-2" range is for starting extra-heavy loads and/or ascending or descending extremely steep grades. The throttle position and vehicle speed control the shift pattern. This range is required only for extreme operating conditions.

Hydraulic Retarder Operation – The hydraulic retarder may be used in any range. To apply the retarder, fully depress the floor pedal (left of steering column in a location ordinarily taken by clutch pedal) and hold down as long as needed or until red warning light on instrument panel goes on, then release momentarily. However, do not apply hydraulic retarder while making manual shifts.

Throttle Over-Control Operation – When climbing a variable grade, it may be desirable to use the throttle over-control. Simply depress the accelerator pedal, past "detent" to the floor. This moves the automatic upshift point beyond the control of the transmission governor. This prevents all upshifting and will not allow the transmission to move rapidly up and down between gear ranges. Better forward speed will result.

Reverse Driving – Used for reversing the direction of the vehicle (backing up). While it is advisable to be at a complete stop before engaging reverse, it is possible to shift into "R" position while vehicle is in slight (1 to 2 mph) forward motion. Avoid engaging reverse above this speed. This feature permits moving the selector lever between "R" and any forward position with light accelerator pedal pressure allowing the vehicle

to be "rocked" as required to move out from mud, snow, sand, etc. **There is no provision for a transmission reverse parking feature as there is in Hydra-Matic.**

Towing and Pushing Cautions—If it is necessary to tow the vehicle, it must be done with the rear wheels off of the ground or the propeller shaft must be disconnected at the axle pinion shaft or the axle shafts must be removed. If the vehicle is towed with the wheels on the ground and with the propeller shaft connected, the transmission will be damaged.

DO NOT tow or push vehicle to start engine.

Powermatic Driving Cautions—

- Do not tow or push vehicle with transmission connected through to the rear axle.
- Do not coast with control lever in "N" (neutral). Operating vehicle in this manner may cause damage to the transmission.
- Release retarder pedal when warning light is on. If pedal is not released, overheating of transmission will occur and cause possible transmission damage.
- Under no circumstances should the control lever remain in any other position than "N" (neutral) when the engine is idled longer than normal for driving. DO NOT leave transmission in a "driving" range while making pick-up and deliveries, etc.
- Do not accelerate engine for over 10 seconds in any driving gear when the vehicle is held with brakes.
- When stopped on an upgrade, do not hold truck by accelerating engine. Use service brakes.
- Move selector lever to "LO-2" for extremely hard pulls at low road speed.
- Never move selector lever to "R" (reverse) when vehicle is moving forward, except when "rocking" in mud, snow, sand, etc.
- No "In Gear" parking (reverse park feature) is provided and hand brake must be firmly applied.

- Do not apply hydraulic retarder while making manual shifts.
- Do not shift from "3-HI", "3-5" or "3-4" to "LO-2" while under way on icy roads.
- Do not shift from "3-HI" to "3-5" above 50 mph or with hydraulic retarder in operation.
- Do not shift from "3-HI" or "3-5" to "3-4" above 30 mph, or with hydraulic retarder in operation.
- Do not shift from "3-HI", "3-5" or "3-4" to "LO-2" above 15 mph or with hydraulic retarder in operation.
- If equipped with power take-off, place transmission in any forward range, let engine idle, engage power take-off, then shift transmission into neutral and operate the power take-off. If vehicle is to be moved during operation of power take-off shift into "3-4" range.

TWO-SPEED AXLE

The control for the optional two-speed axle is located on the gearshift lever (fig. 11). Operating this control also shifts the speedometer adapter to maintain reasonably accurate speedometer and odometer reading regardless of the axle ratio used.

To shift the axle (only) from low speed to high speed, move the control to high speed position, release accelerator, pause a second to allow engine speed to drop down, then again depress the accelerator.

To shift from high speed to low speed, move the control to low speed position, hold accelerator down and depress and release clutch pedal as quickly as possible.

To split shift axle and manual transmission together:

From high to low axle—shift transmission then move axle control to low position before engaging clutch.

From low to high axle—move axle control to high position then shift transmission.

Operating instructions for this unit are shown on a "Decal" in the driver compartment.

NOTE: The 2-speed axles have no neutral position. Axles must always be operated in either high or low ratio. To attempt to coast wih axle supposedly in neutral may result in serious damage to the unit.

FOUR WHEEL DRIVE

The controls for the four wheel drive models are mounted in the center area of the front floor. A "decal" showing the driving positions is attached in the driver's compartment (fig. 30).

N—NEUTRAL—Both axles are disengaged for operation of Power Take-Off with truck stationary.

2—HI—REAR WHEEL DRIVE—This position provides rear wheel drive with no change in gear ratio and is used for all driving under normal load and road conditions. The control lever may be left in this position for **all normal operation.**

4—HI—ALL WHEEL DRIVE—This position provides four wheel drive with no change in gear ratio.

4—LO—ALL WHEEL DRIVE—This position provides four wheel drive with greater gear reduction than provided by the transmission. **Never use on dry hard surfaced roads.**

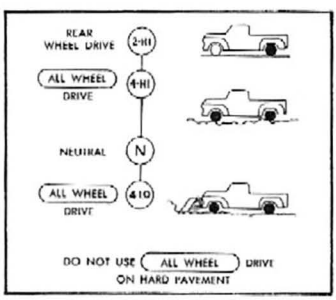


Fig. 30—Four Wheel Drive Shifting Pattern

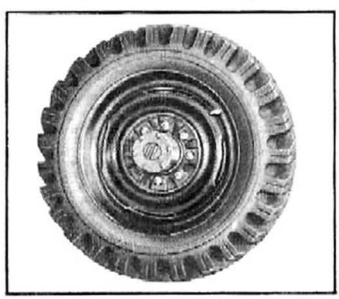


Fig. 31—Free Wheeling Hubs

To Shift from	To	Procedure
Neutral	Any drive Position	1. With truck stopped 2. Depress clutch pedal 3. Shift all the way into desired axle drive position 4. Operate transmission in normal manner
Rear Wheel Drive (2-Hi)	All Wheel Drive (4-Hi)	1. May be made at any speed, forward or reverse 2. No declutching or transmission shifting necessary 3. Move lever rearward into position 4. Do not make shift on dry, hard surfaced roads
All Wheel Drive (4-Hi)	Rear Wheel Drive (2-Hi)	1. May be made at any forward or reverse speed 2. Release accelerator pedal momentarily 3. Shift forward into position
Any Position	Neutral	1. With truck stopped 2. Depress clutch pedal 3. Shift transmission into neutral 4. Shift transfer case lever to neutral
Any Position	All Wheel Drive (4-Lo)	1. With truck stopped 2. Depress clutch pedal 3. Move control lever rearward fully into position 4. Do not use this position on paved roads

Free Wheeling Hubs

If equipped with free wheeling hubs (fig. 31), do not use All Wheel Drive (4-Lo) unless hubs are in the "Lock" position. Engagement and disengagement of free wheeling hubs is a manual operation which must be performed at each front wheel.

To Operate Power Take-Off (if equipped).

1. Place transfer case control lever in Neutral (N).
2. Move the Power-off Take-off lever to "Engaged" position.
3. If vehicle is to move, shift the transfer case into desired range. If the truck is to remain stationary, leave the transfer case lever in Neutral (N).

4. Shift transmission into correct range (1st or 2nd only).
5. Accelerate engine as required.

Towing Cautions—When towing the vehicle at slow speeds (approx. 20 mph), for a very short distance only, the transmission must be in neutral and the **transfer case MUST be in "TWO WHEEL HIGH".**

When towing the vehicle at faster speeds for greater distances the following steps **MUST** be taken:

1. With all four wheels on the road—
   a. Disconnect the front axle propeller shaft.
   b. Disconnect the rear axle propeller shaft or pull the axle shafts where applicable.
2. With the two rear wheels on the road—
   a. Disconnect the rear axle propeller shaft or pull the axle shafts where applicable.
3. With the two front wheels on the road—
   a. Disconnect the front axle propeller shaft.

Four Wheel Drive Driving Cautions—

- Do not use All Wheel Drive, either (4-Hi) or (4-Lo) on dry hard surfaced roads.
- Use All Wheel Drive (4-Lo) for off-the-road operations only when All Wheel Drive (4-Hi) does not supply enough power to keep truck moving.
- Clutching is not required except between Neutral (N) and All Wheel Drive (4-Lo), at which time the clutch should be used to assist gear alignment.
- If unit is equipped with power-take-off do not operate vehicle in any transmission gear range higher than second gear.

TANDEM AXLE

The tandem axle models are of the "both-axles-driving-at-all-times" type. The rearmost axle cannot be locked out or be used as a trailing axle. The inter-axle, or third differential, acts in the same manner as a conventional differential, providing differential action between the two axles and uniform tractive effort to all rear wheels.

If one of the four tandem driving wheels slips or spins, and

the inter-axle differential is operative, all of the power is diverted to the free wheel, thereby immobilizing the truck. This condition is effectively controlled by an inter-axle differential lockout which is built into the power divider. This provision permits the driver to temporarily lock out the differential action between the two axles and provide maximum traction when the road or operating conditions are unfavorable.

The differential lock-out control consists of a toggle switch and a red warning light located on the instrument panel (fig. 9). The warning light, when turned on, indicates to the driver that the differential is locked out.

CAUTION: Do not operate these units, with the differential locked out, on surfaces that provide sufficient traction. When differential is to be locked out, vehicle must be completely stopped.

Auxiliary Transmission

This 3-Speed transmission is optional for use on vehicles equipped with tandem axle. Also featured on this unit, are two standard SAE 6 bolt power take-off provisions and a 12 x 5 inch internal expanding parking brake mounted at the rear. This parking brake takes the place of the one normally found on standard transmission.

The control for this unit is mounted on the front floor to the right of the parking brake lever. The shift pattern is shown on the control lever knob and also in Figure 10.

To operate this transmission, bring vehicle to a complete stop, depress clutch or shift "engine-mounted" transmission into neutral and select desired ratio in auxiliary 3-speed transmission. Then operate "engine-mounted" transmission in normal manner. For further instructions, see decal mounted in driver's compartment.

POSITRACTION REAR AXLE

Power Flow in Forward Driving—Under normal starting, shifting and operating conditions, the torque or power flow in both the Positraction and conventional type differential is transmitted equally to each axle shaft and wheel. However, when sudden patches of ice, sand, loose gravel, oil slicks are encountered, the Positraction differential will not permit the wheel with the lesser traction to spin, gain momentum and swerve the truck when dry pavement is regained.

Power Flow in Turns—In turning, the Positraction differential gives normal differential action and permits the outer wheel to turn faster than the inner wheel. At the same time, the Positraction differential applies the major driving force to the inside rear wheel improving stability and cornering and tending to compensate for oversteer.

Power Flow with Poor Traction—When traction conditions under the rear wheels are dissimilar, the driving force with an ordinary differential is limited by the wheel with the poorer traction.

Typically, in this situation, the wheel with the poorer traction spins, and the vehicle remains immobile. The Positraction differential enables the wheel with the greater traction to apply the major driving force to the road. In this way, the Positraction equipped vehicle can operate in snow, ice, mud, etc., which might stop a conventionally equipped unit.

In an emergency, when one rear wheel drops off the pavement, traction with the ordinary differential is limited to that of the wheel off the pavement. This wheel tends to spin, and when the pavement is regained, the truck swerves as the momentum of the spinning wheel is absorbed. With Positraction the wheel on the pavement continues to drive the vehicle, and the wheel on the shoulder does not spin. In this way complete vehicle control is maintained and there is no dangerous swerve.

NOTE: When starting with one wheel on an excessively slippery surface, slight application of the parking brake (approximately one-third on) may be necessary to help energize the Positraction differential to gain maximum traction.

MAINTENANCE

The following table will indicate many of the items that should be performed at regular mileage intervals to assure the maximum in performance and economy. Set mileages listed are for favorable operating conditions. Adverse conditions such as extreme heat, dust, continuous off road operation, etc., will make necessary more frequent performance of these items.

MAINTENANCE CHART

ITEM	AS REQUIRED	EVERY WEEK	SPRING FALL	FIRST 500	FIRST 1000	EVERY 1000	FIRST 1500	FIRST 2000	EVERY 5000	EVERY 10,000
Wash and Clean Vehicle	•									
Check Coolant Level		•								
Check Fan Belt Tension									•	
Check Leaks in Cooling System									•	
Drain and Clean Cooling System			•							
Flush Cooling System	•									
Check Battery Level		•				•				
Tighten Battery Terminals	•									
Clean Battery Terminals	•									
Check Electrical System									•	
Check Distributor Points									•	
Check Engine Timing	•									
Check or Replace Spark Plugs									•	
Aim Headlamps	•									
Clean Crankcase Ventilation										•
Valve Tappet Adjustment								•	•	
Change Fuel Filter									•	

Change Governor Air Cleaner										•
Engine Tune-up									•	
Front End Alignment	•									
Tighten Universal "U" Bolts	•									
Tighten Axle Flange Bolts	•									
Tighten Spring "U" Bolts	•									
Tighten Shackle Bolts	•									
Tighten Steering Gear	•									
Steering Gear Adjustment	•									
Tighten Torque Rod Balls Stud Nuts (Tandem Only)				•						
Tighten Spring Saddle Cap Stud Nuts (Tandem Only)				•						
Check Tire Pressure		•								
Visual Tire Check		•								
Rotate Tires									•	
Balance Tires	•									
Hydra-Matic Band Adjustment							•			
Tighten Wheel Nuts*						•				
Wheel Bearing Adjustment	**									
Carburetor Adjustments	•									
Brake Adjustments									•	
Check Brake Fluid						•				
Clean Air Cleaner									•	
Complete Dealer Inspection					•				•	
Tighten Upper Control Arm Shaft Attaching Nuts					***					

*Cast Spoke Wheels—Tighten every day for first 500 miles and every 1000 miles thereafter. **Every 30,000 miles.

***First 1000 miles and 1000 miles after front end alignment.

BRAKE SYSTEM

The self-energizing type braking system used on all Chevrolet trucks combines hydraulically operated service brakes with mechanically operated parking brakes.

The hydraulic service brakes provide brake action at all wheels, while the mechanical parking brakes operate on the rear wheels of ½ and ¾ ton truck models. The 1, 1½, 2 and 2½ ton models are equipped with a propeller shaft brake.

The hydraulic system must be kept full of fluid at all times in order to function properly. The main cylinder includes a reservoir for a reserve supply of fluid. This automatically keeps the system full of fluid as long as there is a reserve supply in the reservoir. Should the reservoir become empty or the hydraulic system be opened at any point, air will enter the system and affect the efficiency of the brakes. When this occurs the hydraulic system must be bled. See "Bleeding Hydraulic System."

Care. The Chevrolet braking system requires very little care; however, the system should be checked occasionally for indications of fluid leak. If leaks are found the necessary repairs should be made at once.

The filler cap, located on left side of engine compartment, should be removed and if the fluid is low in the reservoir, it should be filled to a point about ½" from the top of reservoir with G. M. Super 11 Hydraulic Brake Fluid. Check the filler cap to see that the vent holes are open. Install filler cap and inspection plug.

BLEEDING HYDRAULIC SYSTEM

Only G. M. Hydraulic Brake Fluid Super 11 should be used when bleeding brakes.

Brake system should be bled in a definite sequence to obtain best results. Figure 32 illustrates various combinations of brake equipment used, with bleeder valves numbered in the sequence in which they should be bled.

Brakes on ½, ¾ and 1 ton models, when not equipped with Hydrovac, may be bled by two methods, pressure or manual. On all other vehicles brakes should be bled only by the pressure system.

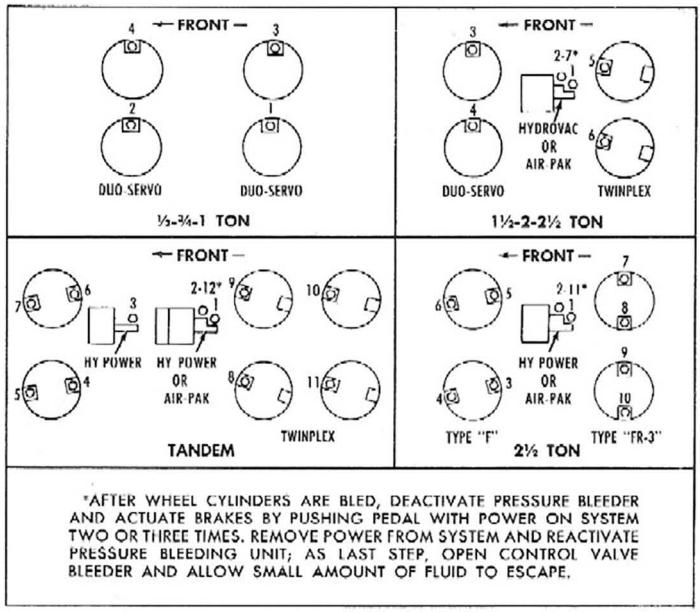


Fig. 32—Brake Bleeding Sequence

Pressure Bleeding (All Models)

CAUTION: Stop engine and destroy vacuum in vehicle equipped with Hydrovac, Midland-Ross Hy-Power or exhaust air pressure from vehicle equipped with Air-Pak, before opening any bleeder valve.

1. Make sure fluid level in pressure tank is up to petcock above outlet and that tank is charged with 25 to 30 psi air pressure. Tank pressure should not be allowed to fall below 20 psi at any time during bleeding operation.

2. Clean dirt from around main cylinder filler cap, then remove filler cap. Connect pressure tank hose to filler cap adapter opening, then open valves at both ends of hose. Bleed air from hose before tightening connection at main cylinder.

3. First bleed Hydrovac, Midland-Ross Hy-Power or Air-Pak unit. Midland-Ross Hy-Power and the Air-Pak units have two bleeder valves while the Bendix Diaphragm type

Hydrovac has only one bleeder valve and must be bled in sequence shown in Figure 32. Slip end of bleeder hose over bleeder valve No. 1, on slave cylinder (on all except the Hydrovac unit), and place other end in a glass jar containing enough hydraulic brake fluid to cover end of hose. Open bleeder valve with wrench, at least ½ turn, and observe flow of fluid from hose. Close valve as soon as bubbles stop and fluid flows in a solid stream. Repeat at bleeder valve No. 2 (No. 1 on the Hydrovac units).

4. On vehicles using Twinplex rear brakes, fully back off upper shoe adjustment at each wheel.

5. On all vehicles, bleed wheel cylinders at each wheel in sequence shown in Figure 32, in the following manner. Connect one end of bleeder tube to wheel cylinder and place other end in a glass jar. Open bleeder valve by turning valve counterclockwise approximately ¾ of a turn. Bleed until all bubbles disappear and fluid flows in a solid stream. Close bleeder valve.

6. On vehicles with Twinplex rear brakes, adjust upper shoe on each rear wheel, with pressure tank connected. Push down hard on the brake pedal several times to centralize the shoes.

7. Disconnect pressure tank and readjust all brake shoes.

8. Apply approximately 75 pounds pressure on the brake pedal and check the pedal clearance from the toe board to the forward edge of the pedal pad. This clearance should be a minimum of 5 inches with the floor mat removed. If reserve is less than 5 inches, rebleed the entire system in the sequence outlined above.

Manual Bleeding—½, ¾, 1 Ton
(Not equipped with Hydrovac)

Manual bleeding is similar to pressure bleeding except that the brake fluid is forced through the lines by pumping the brake pedal instead of by air pressure.

1. Clean all dirt from top of main cylinder and remove filler cap.

2. Install adapter and hydraulic brake fluid automatic filler at main cylinder.

3. In sequence shown in Figure 32, bleed wheel cylinder in the following manner. Place bleeder tube on bleeder valve.

Place other end of tube in a container having sufficient fluid to cover end of tube.

4. Open bleeder valve approximately ¾ of a turn, depress the brake pedal a full stroke and allow it to return slowly, making sure the end of the bleeder tube is under the surface of the liquid in the container. Continue operating the pedal, refilling the jar at the main cylinder when necessary, until liquid containing no air bubbles emerges from the bleeder tube. Close bleeder valve as brake pedal is on down stroke.

5. Replace filler cap, then readjust all brake shoes.

6. Apply approximately 75 pounds pressure on the brake pedal and check the pedal clearance from the toe board to the forward edge of the pedal pad. This clearance should be a minimum of 5 inches with the floor mat removed. If reserve is less than 5 inches, re-bleed the entire system in the sequence outlined above.

BRAKE TYPE APPLICATION

Type	Where Used
Duo-Servo	C-10, 20, 30, 40 (Front), 50 (Front), 60 (Front) K-10, 20 P-20, 30 L-50 (Front), 60 (Front) S-50 (Front), 62 (Front), 64 (Front), 67 (Front), 70 (Front) T-60 (Front) Optional—S-64 (Front), 68 (Front)
Wagner "F"	All 70 (Front) All 80 (Front)
Twinplex	All 40 (Rear) All 50 (Rear) All 60 (Rear) S-70 (Rear)
Wagner "FR3"	M-70 (Rear) All 80 (Rear)

BRAKE ADJUSTMENT

Duo-Servo

1. Raise vehicle and place on stand jacks with wheels clear of floor.
2. Disconnect rear axle parking brake cables from idler lever links.
3. Remove adjusting hole covers from flange plates on all four wheels.
4. Expand brake shoes by turning adjusting screw with suitable tool until a light drag is felt on the brake drum. Refer to Figure 33.

NOTE: Moving the handle end of tool toward center of wheel, expands shoes.

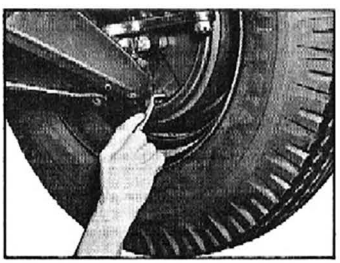


Fig. 33—Duo Servo Brake Adjustment

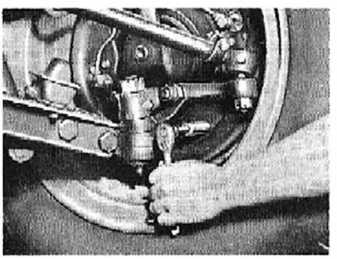


Fig. 34—Wagner Type "F" Brake Adjustment

5. On ½ ton, turn the adjusting screw in opposite direction on all four wheels 7 notches to relieve brake drag. On all other models back off adjusting screw just enough to eliminate drum drag not to exceed 7 notches.
6. Replace adjusting hole covers.
7. On trucks where the rear wheel service brakes are utilized as parking brakes proceed as follows:
   a. Raise rear wheels from floor.
   b. Apply parking brake lever four notches from fully released position.
   c. Loosen jam nut on threaded rod at end of forward cable.
   d. Tighten rear nut on threaded rod until a light drag is obtained at rear wheels.
   e. Tighten jam nut and lower wheels to floor.
   f. Thoroughly test parking brake.

Wagner Type "F"

1. Jack up front of vehicle. Place wrench on one adjusting cam stud to adjust one shoe (fig. 34). Rotate wrench in direction of forward wheel rotation to decrease lining to drum clearance. Reduce clearance until brake drag is felt as wheel is turned in forward direction by hand.
2. Move wrench slightly in opposite direction until brake drag is relieved, then move wrench an additional 7 to 10 degrees to provide running clearance. (7 to 10 degrees is equal to 1 to 1½ inches of travel at end of an 8-inch wrench.)
3. Place wrench on opposite adjusting cam stud and adjust shoe by repeating steps 1 and 2.

Twinplex

1. Jack rear wheels clear of floor and remove adjusting hole covers from flange plates.
2. Using a suitable tool (fig. 35), turn rear adjusting screw until a light dragging contact is felt on the brake drum and then back off 3 notches. Turn front adjusting screw until a light dragging contact is felt on the brake drum and back off 3 notches. Install adjusting hole covers.
3. Repeat above operation on the other rear wheel.

   NOTE: Moving the outer end of the adjusting tool toward the center of the wheel expands the shoes.

4. Lower rear of truck to floor.

Wagner Type "FR-3"

1. Jack up wheels until clear of floor. Remove adjusting hole covers from backing plate.
2. At one adjusting slot, insert screwdriver through slot and engage adjusting wheel (fig. 36). Move screwdriver handle

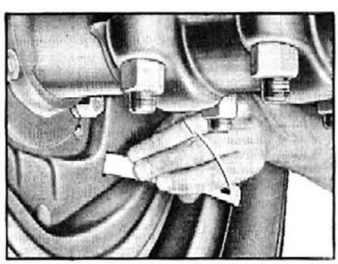


Fig. 35—Adjusting Twinplex Brakes

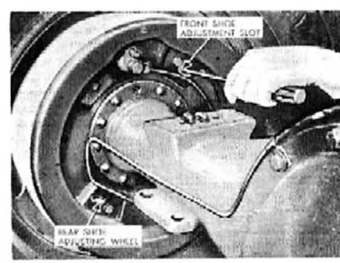


Fig. 36—Adjusting Type "FR3" Brakes

toward axle to rotate adjusting wheel and decrease lining clearance until lining drags on drum.

3. Relieve drag by rotating adjusting wheel in opposite direction. Back off adjustment as follows: For worn lining—3 notches (clicks). For new lining—5 notches (clicks).
4. At other adjusting slot, repeat steps 2 and 3 to adjust other shoe.
5. Install adjusting hole covers in backing plate.

PARKING BRAKE ADJUSTMENT

Rear Wheel Type

See step 7 under "Duo-Servo" adjustment.

Band Type

1. Set hand brake lever in fully released position and, if necessary, adjust pull rod so lower edge of both cams are flat against the band end. Turn up anchor screw "B" (fig. 37) until there is .010″-.015″ clearance between lining and drum.
2. Draw up adjusting bolt "C" until there is .020″ clearance between drum and lower end of band. Tighten lock nut "D."
3. Turn up adjusting nut "E" until there is .020″ clearance between drum and upper end of band. Tighten lock nut "F."

Shoe Type

1. Set hand brake lever in the fully released position.
2. Loosen lock nut "D" and draw up adjusting bolt "A" (fig. 38) to secure clearance between outer shoe facing and brake drum of .010″-.015″ measured at a point directly above bolt "A." Then hold bolt and tighten lock nut securely.

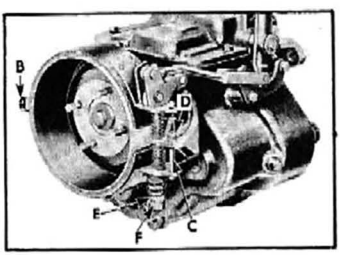


Fig. 37—Propeller Shaft Brake (Band Type)

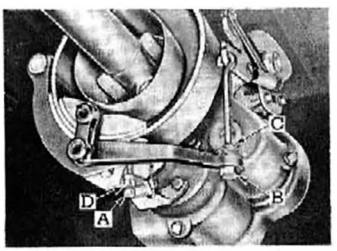


Fig. 38—Propeller Shaft Brake (Shoe Type)

3. Loosen lock nut "C" and draw up nut "B" to secure .010"-.015" clearance between inner shoe facing and brake drum. Then hold nut "B" and tighten lock nut "C" securely.
4. Recheck both facing-to-drum clearances.

Internal Expanding (Used on Auxiliary Transmission Only)

1. Fully release parking brake lever.
2. Align one of the three access holes in drum flange with adjusting screw spur wheel by rotating hole to 6 o'clock as viewed from rear of vehicle.
3. Engage spur wheel with suitable tool and rotate to adjust brake shoes so that .010" clearance is obtained between shoes and brake drum (moving handle end of tool downward expands shoes). Note that free running clearance between lining and drum be at least .010" as measured by feeler gauges inserted from open end of drum at both linings at the same time. Insert feeler gauges directly opposite each other and as close to the horizontal center line of drum as possible.

BRAKE PEDAL CLEARANCE

This adjustment is identical to the one used for the clutch pedal adjustment. The adjustment is as follows:

Adjust brake master cylinder push rod eccentric bolt on early models or adjustable push rod on late models to obtain free travel between the brake master cylinder push rod, and the master cylinder piston (fig. 39). This will amount to ⅛–⅜" free pedal travel measured at the centerline of the pedal pad, just before the brake push rod touches the master cylinder piston (similar to Figure 45).

HYDROVAC

Hydrovac is standard equipment on the 2 and 2½ ton

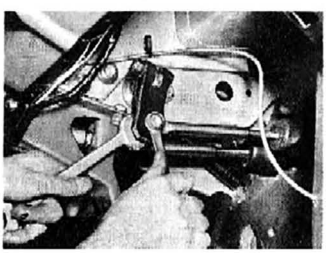


Fig. 39—Pedal Clearance—Clutch Shown as Typical

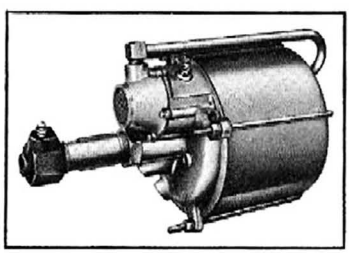


Fig. 40—Hydrovac

models and is available as optional equipment on all models.

The piston type Hydrovac (fig. 40) consists of three operating units built into one assembly; namely, the control valve assembly, the vacuum power cylinder and the brake hydraulic cylinder.

With this system the engine vacuum is used to greatly increase the hydraulic pressure to the brake wheel cylinders. This provides unusual braking efficiency with comparatively light pedal pressure.

In the event of power loss (loss of engine vacuum), the vehicle operator must "pump" the brake several times to "raise the pedal" in order to bring the truck to a stop.

Care. Lubricate the vacuum cylinder of the piston type Hydrovac according to instructions in the Lubrication Section. The diaphragm type requires no lubrication.

The vacuum connections between the engine and the Hydrovac should be checked for damage and the connections tightened occasionally. The Hydrovac air cleaner should be removed, disassembled and cleaned at least twice a year. If the truck is operated under dusty conditions, the air cleaner should be cleaned more frequently.

AIR-OVER HYDRAULIC AND FULL-AIR BRAKES

An air-over hydraulic (Air Pak) system is optional on all 2 and 2½ ton trucks and a full-air system is optional on 2½ Ton series except school bus. These systems use compressed air maintained by an engine mounted and driven two-cylinder compressor. A single air storage tank supplies air to the air-over hydraulic brake unit, and two air storage tanks are used in the full-air system.

Care. Lubricate the air cylinder and the air compressor idler pulley bearing according to instructions in the Lubrication section. The compressor is engine lubricated and requires no special maintenance. All line connections should be checked for leaks and tightened if required.

CARBURETOR

Downdraft Carburetor. The downdraft carburetor used on some 6-Cylinder Chevrolet truck models, is comparatively simple in design and construction and requires very little care or attention. This carburetor has a vacuum controlled power jet and a throttle operated accelerator pump to aid in providing the design economy and performance.

Updraft Carburetor. The updraft carburetors used on the ¾ ton Forward Control trucks are mounted below the manifold. They are equipped with a vacuum controlled power jet and a throttle operated accelerating pump to aid in providing the desired economy and performance.

Eight Cylinder Model Carburetor. The 2 barrel and 4 barrel carburetors used on heavy-duty eight cylinder models are equipped with the vacuum operated portion of the spinner governor.

Care. Tighten the carburetor to manifold and the manifold to cylinder head stud nuts to prevent air leaks. Keep the carburetor clean externally and have it completely overhauled at regular intervals so that foreign matter in the carburetor and worn parts will not affect correct carburetion.

MAINTENANCE

Downdraft Carburetor

There are but two adjustments on the carburetor, one for idling mixture and the other for idling speed. These adjustments should be made together as changing the adjustment on one affects the other.

Run engine until it reaches normal operating temperature. Push choke knob in all the way. Turn idling mixture adjusting screw "A" (fig. 41) in clockwise until it lightly contacts stop, then back it off 1 to 2½ turns. Let engine idle at 450 to 500 revolutions per minute and turn idling mixture adjusting screw "A" in or out as necessary to obtain a smooth idle.

Before adjusting idling speed make sure hand throttle knob and choke knob are pushed in all the way and accelerating and throttle linkage is free so that throttle lever stop screw "B" (fig. 41) is against stop. Turn screw "B" in or out to

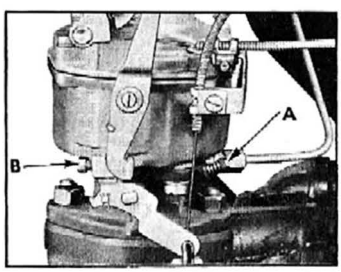


Fig. 41—Downdraft Carburetor Adjustment

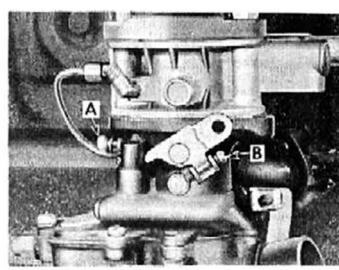


Fig. 42—Updraft Carburetor Adjustment

obtain an idling speed of 450 to 500 rpm. If necessary readjust idling mixture screw "A" as explained above to obtain a smooth idle.

On automatic transmission models, adjust to idle speed of 425-475 rpm with shift lever in "N" position.

Updraft Carburetor

Warm up engine to normal operating temperature and make sure choke and throttle knobs are in all the way. Adjust the engine speed to 450 to 500 rpm on conventional transmission models and 425-475 rpm with shift lever in "N" on Hydra-Matic models by turning the throttle stop screw "B" in or out as desired (fig. 42).

Turn the idle mixture adjusting screw "A" in or out as necessary to provide a smooth idling mixture. If the carburetor is in good condition the best idling mixture should be obtained with the idling mixture screw between ½ and 1½ turns open.

Eight Cylinder Model 2 and 4 Barrel Carburetor

Warm up engine to normal operating temperature and make sure choke and throttle knobs are in all the way. Connect tachometer and vacuum gauge and adjust idle speed to give 475 rpm. Adjust each idle mixture screw separately to give peak vacuum and rpm indications on tachometer and vacuum gauge.

CAUTION: Do not turn idle mixture screws tightly against stop or damage to needle seat will result.

If necessary, readjust engine idle to 475 rpm and readjust idle mixture.

AIR CLEANER

Oil bath cleaners on all truck models operate primarily to remove dust and dirt from the air before it is taken into the carburetor and engine. All air cleaners used incorporate flame arresters.

Maintenance

The oil level in the air cleaner reservoir should be checked at regular intervals and sufficient S.A.E. 50 oil added in summer and lighter oil added in winter. Adding oil and serv-

icing the cleaner will vary greatly, depending upon operating conditions. Experience will tell when these services should be performed. Servicing of this cleaner, an important operation, must be performed as follows:

Remove air cleaner assembly and remove cover and filter element assembly (fig. 43).

Fig. 43—Servicing Air Cleaner

Empty the oil out of the cleaner reservoir and clean out all accumulated dirt. Wash filter element by slushing it in cleaning solvent until all foreign matter is removed and dry thoroughly. Wash cleaner body in cleaning solvent and wipe dry. Fill the oil reservoir to the oil level mark with S.A.E. 50 oil in summer and lighter grade in winter.

Reassemble the filter element to the cleaner, being sure that the flange seats properly against the cleaner body. Install the cover, making sure that the gasket is clean and in good condition.

Install the cleaner making sure that it fits tight and is retained securely with no air leaks.

CLEANING HINTS

EXTERIOR

Washing the Truck—One of the best ways to preserve the finish is to keep it clean. Calcium chloride and other salts, road tar, excretion from insects, tree sap, chemicals from factory chimneys and other foreign matter may permanently damage the vehicle finish. Frequent, regular washings and a thorough cleaning after exposure is recommended to prevent damage to the finish.

Use either cold or warm (not hot) water to wash the truck. Never wash the vehicle in the direct rays of the hot sun, and always wait until the painted surfaces have cooled.

Do not wipe off dust and dirt when surfaces are dry as this may leave scratches.

Protection of Exterior Bright Metal Parts—The same substances harmful to painted surfaces may also damage bright metal parts of the truck if they are not cleaned regularly and

protected against exposure. Wash all bright metal parts in the same manner as the painted surfaces. Normally, washing with water is all that is required. However, G. M. Chrome Polish may be used on CHROME or STAINLESS STEEL trim if necessary. Use special care with ALUMINUM trim. Never use auto or chrome polish, steam or any caustic soap to clean aluminum. Wash only with lukewarm water, and if necessary, a mild soap. Rinse well and dry thoroughly.

It is recommended that all bright metal parts of the truck, after being thoroughly cleaned with warm water, be given a coating of cleaner and polish and rubbed to a high polish. This will serve to keep corrosive agents away from these surfaces, and should be repeated as often as required.

Polishing the Truck—Under normal conditions, cleaning and polishing will protect the finish of the vehicle. If the finish becomes dulled by the presence of "spent pigment" the luster can be restored by use of a cleaner and polish. Several recommended polishes are available from a Chevrolet dealer.

Touching Up Touch up nicks and scratches with Chevrolet Touch-Up paint. These are available in brush type tubes or pressure spray cans in original factory colors at Chevrolet Dealers.

Cleaning White Sidewall Tires—Use soap, warm water and a stiff brush to remove road grime and curb dirt from white sidewall tires. Use a fine grade steel wool for more severe cases. Do not use gasoline, kerosene, or any oil product that will discolor or deteriorate the rubber.

CAUTION: Some white sidewall cleaners will cause serious damage to aluminum trim. Use caution when cleaning tires with this type of cleaner so that none is splashed or sprayed on aluminum trim. G. M. Whitewall Tire Cleaner is safe to use around aluminum trim.

INTERIOR

Dust and Dirt—Clean the interior of the vehicle frequently, using a broom or vacuum cleaner. A damp cloth will wipe dust from hard surfaces. G. M. Leather Cleaner is available to clean any imitation leather, vinyl or coated trim fabric on seats or door panels.

Spots and stains—Remove upholstery stains as soon as possible or they may become "set" and hard or impossible to remove. First determine the type and age of stain and the kind of

upholstery material. G. M. Kar Kleen Upholstery Cleaner or G. M. Kar Kleen Upholstery Spot Cleaner, available from Chevrolet Dealers, will clean most stains. For oil, grease and road grime stains not removed by these cleaners, the use of a volatile type cleaner such as G. M. Upholstery Spot Remover is recommended. Do not use alkaline cleaners for they may damage the color or finish of the materials. Other solutions such as hot water, ammonia water, soap, ink eradicator, etc., will probably discolor and disturb the material.

CLUTCH

Description. The clutch, which provides a means of disconnecting the engine from the transmission while shifting gears, is of the single plate dry disc type. The 235 cu. in. engine clutch consists of a pressure plate, cover, disc with facings, diaphragm type spring, throwout bearing, throwout fork and small correlated parts. The 8-cylinder engine clutch uses heat treated coil springs and release levers instead of the diaphragm type spring.

Hydraulic operated clutch controls are used on all models except Forward Control units. When the clutch pedal is depressed, brake fluid is forced from the clutch side of the master cylinder into the clutch slave cylinder. The slave cylinder has a push rod which operates the clutch release lever.

Care. The Chevrolet clutch requires very little care or attention; however, proper use of the clutch will contribute materially to the carefree service it will render.

Never drive with the foot resting on the clutch pedal as this causes constant wear on the clutch throwout bearing and may cause slight clutch slippage which will cause premature failure of the parts.

The clutch pedal free travel should be checked at regular intervals by pushing the clutch pedal down with the fingers to

Fig. 44—Pedal Clearance—Clutch Shown as Typical

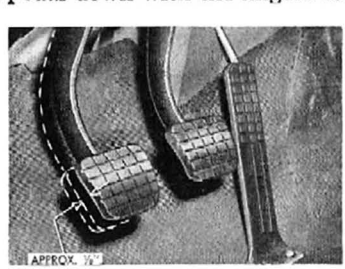


Fig. 45—Pedal Free Play

determine the distance it moves before the clutch push rod touches the master cylinder piston.

Maintenance—Clutch Pedal Free Travel. Adjust clutch master cylinder push rod eccentric bolt on early models or adjustable push rod on late models to obtain free travel between the clutch master cylinder push rod, and the master cylinder piston (fig. 44). This will amount to ⅛" free pedal travel measured at the centerline of the pedal pad, just before the clutch push rod touches the master cylinder piston (fig. 45).

COOLING SYSTEM

The cooling system consists of the radiator, fan, fan shroud on some vehicles, water pump, thermostat, water passages in cylinder block and cylinder head, and the necessary connections and fittings. The function of the cooling system is to keep the engine at the most efficient operating temperature under all driving conditions.

Care. The cooling system must be kept in good condition if it is to properly cool the engine under all operating conditions. The pressure type radiator cap should be removed and the coolant level checked frequently. If the coolant level is low, water or anti-freeze should be added. The normal coolant level is one inch below the top of the radiator upper tank.

> **NOTE: The volume of solution in a Chevrolet cooling system expands about one quart when its temperature is raised from 32° F to 160° F. Therefore, the system should be left from one pint to one quart low if filled cold, especially when anti-freeze is used, to prevent loss through the radiator overflow pipe.**

The fan belt tension should be checked occasionally and, adjusted to provide:

⅜" deflection on L-6 engine.

¾" deflection on 283 cu. in. engines.

$1\frac{3}{16}$" deflection on 348 cu. in. engines.

The up or down movement from the normal position should be measured with a 15 lb. push at a point midway between fan and generator pulleys (fig. 46).

The system should be checked thoroughly for leaks. Tighten screw hose clamps occasionally.

Twice a year, the radiator, cylinder block, and, where applicable, the automatic transmission oil cooler should be completely drained. Using a water hose the cooling system should then be thoroughly flushed until the water runs clear. Then close the drain cock; replace drain plugs and refill system with coolant, leaving one inch between coolant level and top of radiator upper tank.

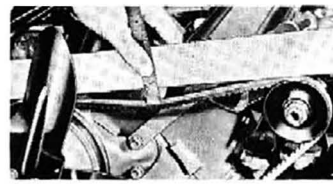


Fig. 46—Fan Belt Adjustment

NOTE: For complete draining, the drain cock at right front side of radiator should be opened, the drain plug at rear left side of 6-cylinder block, or at each side of the V-8 block should be removed and the plug in the Hydra-Matic transmission oil cooler inlet elbow at the front of the oil pan should be removed.

The front of the radiator core should be checked occasionally for bugs, leaves, etc., which would restrict air circulation. These can be flushed out from the back side of radiator with an ordinary water hose and city (not high pressure) water pressure.

MAINTENANCE AND SERVICING

Flushing—Scale and deposits in the cooling system which will not flush out can generally be removed by using a good cooling system cleaning compound. When using a cleaning compound in the cooling system, it is advisable to follow the instructions furnished with the particular brand of compound. If cooling system cleaning compound will not thoroughly clean the system, it is advisable to reverse-flush the system.

Thermostat—A faulty thermostat may cause abnormally high or abnormally low engine temperatures. If the condition of the thermostat is questioned it can be removed and tested as follows.

1. Open radiator drain cock and drain out about half the coolant. This will bring the coolant level below the thermostat housing. Close drain cock.
2. Loosen upper hose clamps and remove hose.

3. Remove the two bolts that attach the water outlet to the thermostat housing. Remove water outlet, gasket and thermostat.

4. Heat a container of water to a temperature 25° above the temperature stamped on the thermostat and place thermostat in the water and see if it opens fully.

5. Place thermostat in water 10° below the temperature stamped on thermostat and see if thermostat fully closes.

6. If the thermostat does not fully open on test in Item 4, or fully close on Item 5, it should be replaced.

7. Place thermostat in housing, install water outlet using a new gasket, install attaching screws and tighten them evenly and securely.

9. Fill cooling system and check it for leaks. The normal collant level is one inch below the top of radiator upper tank.

Before Adding Anti-Freeze—Before installing anti-freezing solution, the cooling system should be inspected and serviced for winter operation. The system should be thoroughly cleaned and all loose scale and iron rust removed.

Cylinder head bolts should be tightened to avoid the possibility of anti-freezing solutions leaking into the engine or exhaust gas blowing into the cooling system. Anti-freeze or water mixed with engine oil may form sludge, which will interfere with lubrication and, in some cases, may form varnish-like deposits which will cause gumming and sticking of the moving parts.

NOTE: Tightening cylinder head bolts may decrease valve clearance. Check and adjust valves if necessary (See Valve Adjustment).

It may be advisable to install new radiator hoses and heater hoses, especially when ethylene glycol or glycerine anti-freezing solutions are used. Ethylene glycol and glycerine have a tendency to shrink rubber that previously has been swollen by the absorption of water, and leaks may develop.

The water pump seal must be leak tight, not only to avoid loss of liquid, but to prevent air from being drawn into the cooling system. Aeration of the cooling liquid causes foaming and promotes oxidation which may result in serious corrosion.

After the anti-freezing solution has been installed, the entire system, including the hose connections, cylinder head gasket

and pump, should be inspected regularly to insure that no leaks have developed.

The use of additional rust preventives, or inhibitors, is not recommended with "GM Anti-Freeze," "GM Ethylene Glycol," or with other anti-freeze preparations that have been chemically treated or compounded for use in automotive cooling systems.

Testing. Some devices, used for testing and anti-freezing solutions, will indicate the correct freezing point only when the test is made at a specific temperature. Other testers, provided with thermometers and tables, indicate the freezing points corresponding to readings made at various temperatures (fig. 47). Disregarding the temperature of the solution, when tested, may cause an error as large as 30° F.

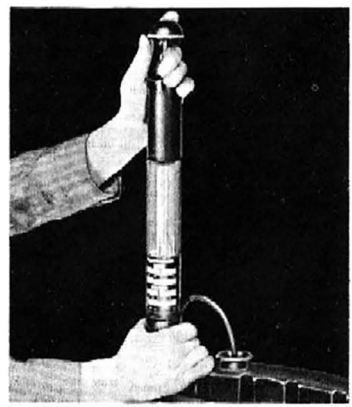


Fig. 47—Anti-Freeze Tester

Some testing devices are made to test only one kind of anti-freezing solution. Others have several scales and may be used for the corresponding kinds of anti-freeze.

The freezing point of a solution containing both alcohol and ethylene glycol cannot be determined accurately by means of a hydrometer.

ANTI-FREEZE SOLUTIONS

In selecting an anti-freezing solution for winter operation, the local conditions and the type of service should be considered. The following information is given to assist the truck owner in selecting the anti-freezing solution best suited to meet his own individual driving conditions.

Alcohol. Denatured alcohol and methanol are used extensively for anti-freezing solutions. The various types of alcohol anti-freeze afford protection against freezing and have the advantage of wide distribution and low first cost.

There are, however, two important disadvantages. Alcohol is lost, especially on warm days and on hard driving, and unless the solution in the radiator is tested periodically and

sufficient alcohol added to replace the loss, the engine or radiator, or both, are likely to be damaged by subsequent freezing. The vehicle finish may be softened and damaged by contact with alcohol solutions or vapors. Alcohol accidentally spilled on the finish should be flushed off immediately with a large quantity of cold water without wiping or rubbing.

Ethylene Glycol. Ethylene glycol anti-freezing solutions have the distinct advantage of possessing a somewhat higher boiling point than alcohol anti-freezing solutions and, consequently, may be operated at a higher temperature, resulting in more effective performance of the heater.

"GM Ethylene Glycol" is especially treated and compounded for use in the cooling system. Other ethylene glycol preparations are available, but only those containing suitable corrosion inhibitors and compounded for use in automotive cooling systems should be used.

Glycerine. Radiator glycerine, which is chemically treated to avoid corrosion in accordance with the formula approved by the Glycerine Producers' Association, is satisfactory for use in the cooling system.

Other makes of anti-freeze should be diluted in accordance with the instructions issued by the anti-freeze manufacturer.

ELECTRICAL SYSTEM

BATTERY

A 12-volt storage battery is located under the hood (fig. 48). The batteries used are:

— 9 plate 53 ampere hour

—11 plate 70 ampere hour

—11 plate 72 ampere hour

NOTE: The 72 ampere hour battery is not interchangeable with either the 53 ampere hour or the 70 ampere hour battery.

Care. The liquid level in the battery should be checked at least every 1000 miles or once every two weeks. If the liquid level

is found to be low, water should be added to each cell until the liquid level rises to the bottom of the split ring. DO NOT OVERFILL! If the battery is continually low, have generator regulator checked. Distilled water, or water passed through a "demineralizer" should be used in order to eliminate the possibility of harmful impurities being added to the electrolyte. DO NOT ADD ANY SUBSTANCE TO THE ELECTROLYTE EXCEPT WATER.

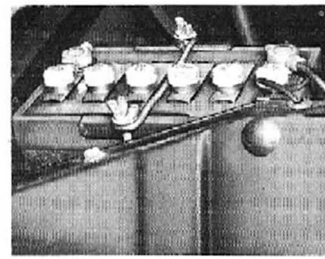


Fig. 48—Battery

***CAUTION:** Never allow an electric spark or flame near the battery, particularly the vent caps. Before working around the battery, ground the vehicle to reduce possibility of static spark. Batteries give off highly combustible hydrogen gas when charging and for some time after. Also, avoid getting battery acid on clothing or other fabrics. When performing any operation on electrical system or engine, disconnect ground cable from battery negative post.*

In freezing weather the vehicle must be driven after adding water to properly mix it with the electrolyte and prevent freezing. It is also important to keep the battery in a fully charged condition in cold weather as a discharged battery will freeze at a little below the freezing point of water (32 degrees F.).

The state of charge in the battery should be checked regularly. Your Chevrolet dealer will gladly perform this service.

Battery Terminals—The battery cable terminals must be kept clean and tight. Loose or corroded terminals cause hard starting and discharged batteries. When corrosion appears on the terminals they should be cleaned in a solution of baking soda and water or ammonia and water. After cleaning, the top of the battery should be flushed off with clean water. To reduce the tendency of the terminals to corrode, coat them with petrolatum. Saturate terminal washer with engine oil every 1000 miles.

GENERATING SYSTEM

Care. The connections in the entire generating system must be kept tight and free from corrosion or anything that will cause high resistance in the circuit. The generator should be lubricated according to instructions in the Lubrication Section.

Maintenance. The maintenance operations on the generating system, especially the voltage and current regulator, require the use of special equipment not generally available to the vehicle owner.

> **NOTE: Never tamper with the voltage and current regulator unless you have special testing equipment and are trained to do this kind of work.**

At periodic intervals of approximately 5000 miles, the terminals, external connections and wiring, mounting, belt and pulley should be checked. The commutator and brush inspection can be made through the openings in the commutator end frame. If the commutator is dirty or if the brushes are badly worn, it is best to have your Chevrolet dealer make the necessary test and repairs.

IGNITION SYSTEM

Distributor Points

Correct distributor point gap is very important. The distributor points are cleaned and adjusted as part of a good engine tune-up. If their condition is questioned, release the distributor cap clamps, remove cap and lift off rotor. Separate the points and inspect them for being pitted or badly burned. Clean the points with a breaker point file. If the points do not clean up with a few strokes of the file they should be replaced.

Point Adjustment (6 cylinder). Crank the engine or place transmission in high gear and rock the truck forward enough to place the movable point cam follower on the peak of cam and check the point opening, using a feeler gauge. Correct adjustment on the 6-cylinder truck engine is .019″ with new points or .016″ with used points. If necessary to adjust the points, loosen the stationary point lock screw and turn the eccentric screw as necessary (fig. 49). Tighten lock screw and recheck point opening. Install rotor, reassemble distributor cap and spark plug wires and make sure all terminals of primary wire at ignition coil and distributor are clean and tight.

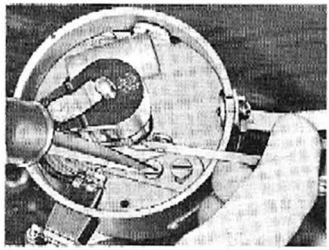


Fig. 49—Adjusting Distributor Points (6-Cyl. Shown)

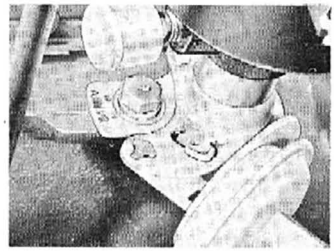


Fig. 50—Octane Selector

Point Adjustment (8 cylinder). Raise window in cap, turn adjusting screw (with allen type wrench) clockwise until engine begins to misfire. Then turn adjusting screw one-half turn counterclockwise.

Point Replacement (6 cylinder). In case the points require replacement, loosen the inside terminal nut at the movable point spring and lift the point out. Remove the stationary point lock screw and remove point and arm. Place the new stationary point and arm in position and install the lock screw. Place the movable point on its shaft and position the spring on the terminal behind lock clip and tighten nut securely. Adjust new points and assemble distributor as explained above.

Point Replacement (8 cylinder). The contact point set is replaced as one complete assembly.

1. Remove two attaching screws which hold base of contact assembly in place.
2. Remove condenser and primary lead from insulated connection and remove point set.
3. Replace in reverse order and adjust as noted above.

Ignition Timing

6-Cyl. Engine. Set the octane selector at "0" on the scale (fig. 50), and attach a Neon Timing Light to No. 1 spark plug. Start the engine and run it at idling speed. Loosen distributor clamp and rotate the distributor body clockwise or counterclockwise until the short vertical line stamped on the flywheel (5° BTDC) on 235 engines or the timing ball on 261 engines, lines up with the pointer on the flywheel housing. Tighten the distributor clamp screw.

Octane Selector. When changing to a grade of fuel with a higher or lower octane rating it may be advisable to advance or retard the spark slightly. Advance the spark to take advantage of higher octant fuel and retard it to prevent excessive detonation with lower octane rated fuels. Note the position of the octane selector scale (fig. 50). Loosen the clamp bolt and move the distributor assembly toward advance or retard as desired and tighten the clamp bolt securely. By adjusting the spark in this manner it can be readjusted to the original setting when desired without special ignition timing equipment.

8-Cyl. Engines. Attach a timing light to the No. 1 spark plug and spark plug wire, using an extension to make contact, and to a good ground.

> ***CAUTION: Do not attach timing light directly to spark plug boot as boot may be punctured so arc-over will occur.***

Start engine and run at idle with light aimed at timing tab at top of harmonic balancer. Loosen distributor clamp and rotate distributor body until the mark on the harmonic balancer lines up with the 4° BTDC mark.

> **NOTE: On all engines, the markings on the timing tab are in two degree increments from the "0" marking. The timing tabs are designed with the greatest number of graduations appearing to the BTDC side of the "0" marking.**

Tighten distributor clamp screw and remove timing light.

Spark Plugs

Clean the spark plugs thoroughly, using an abrasive type cleaner and file the electrodes flat. If the porcelains are badly glazed or blistered, the spark plugs should be replaced. All spark plugs must be of the same make and number of heat range.

Adjust the spark plug gaps to .035", using a round feeler gauge (fig. 51).

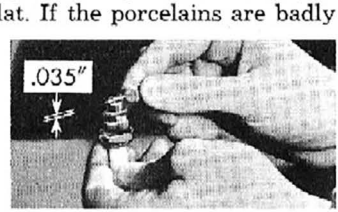


Fig. 51—Setting Spark Plug Gap

CAUTION: In adjusting the spark plug gap never bend the center electrode which extends through the porcelain center; always make adjustment by bending the side electrode.

Install the spark plugs in the engine, using new gaskets.

If a torque wrench is used when installing the plugs, the proper torque is 20 to 25 foot pounds maximum. If a torque wrench is not available, screw each plug in "finger tight" and then with a wrench tighten each plug ½ to ¾ turns beyond this.

STARTING SYSTEM

Care

Check the solenoid mounting and starting motor mounting attaching bolts periodically to be certain they remain tight.

LIGHTING SYSTEM

Lamps

All Chevrolet trucks are equipped with dual "Sealed Beam" headlight units in which the light source, the reflector and lens are all assembled in a hermetically sealed unit. Figure 52 shows the component parts of the light. With this sealed unit dirt and moisture cannot enter the assembly; therefore, it retains its light reflecting ability indefinitely.

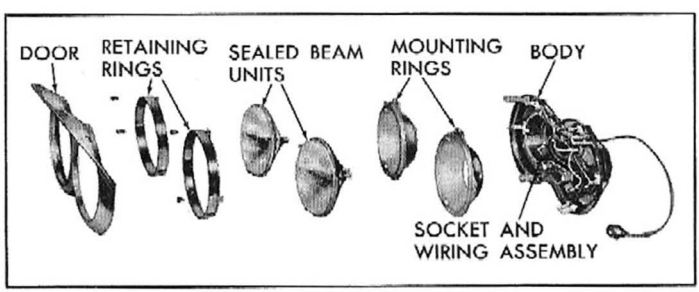


Fig. 52—Headlamp Parts

Sealed Beam Unit Replacement

1. Remove four headlamp door retaining screws and remove door.

2. With long nose pliers remove the retaining spring from the retaining ring (fig. 53), then remove the retaining ring attaching screws (fig. 54). DO NOT disturb the adjusting screws.

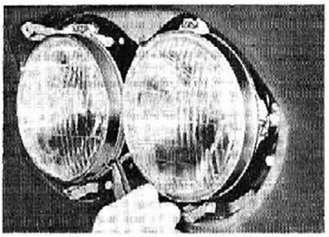


Fig. 53—Unhooking Retaining Ring Spring

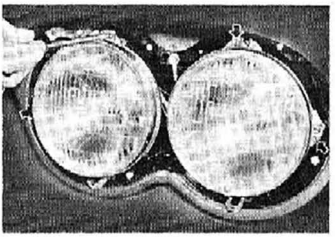


Fig. 54—Removing Retaining Ring Screws

3. The retaining ring may now be removed and the sealed beam unit pulled forward out of the mounting ring. As shown in Figure 55 the mounting ring may be removed at the same time if desired.

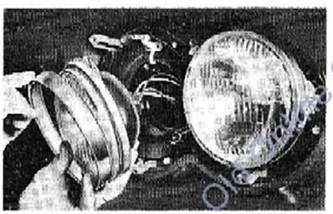


Fig. 55—Removing Sealed Beam Unit

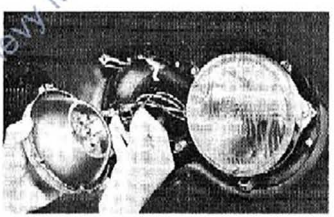


Fig. 56—Disconnecting Plug

4. Disconnect connector plug (fig. 56) from the sealed beam unit and remove the unit.

NOTE: The sealed beam units and connectors are indexed to assure ease of identification for installation. The inboard units are designated Type 1 (to indicate 1 filament in the unit) and have the numeral "1" molded in the top of the lens. The outboard units are designated Type 2 (to indicate 2 filaments in the unit) and have the number "2" molded in the top of the lens. Type 1 unit takes a double connector plug and Type 2 unit takes a triple connector plug.

5. Replace mounting ring if it has been removed in Step 3. Attach connector to a new sealed beam unit to correct type (see above note) and place unit in position in the mounting ring being sure that the number molded into the lens face is at top.

6. Set the retaining ring into place and replace the retaining ring attaching screws, then use long nosed pliers to engage retaining spring of the lamp body in spring hole in retaining ring.

7. Replace the headlamp door and four attaching screws.

Aiming Headlights

Proper aiming of these powerful lights is most important to assure sufficient illumination of the highway without blinding other motorists. When light aiming is necessary it is advisable to contact a Chevrolet dealer who has special equipment for this purpose.

Bulb Replacement

Due to the different types of lamps, there are several different procedures covering bulb replacement. The bulb sockets for the parking lamps unsnap and pull out of the housings. Front parking lamps have rims and lenses that must be removed first. All lamps on the rear of the vehicle have lenses only that are attached directly to the lamp body. To remove the bulb after access has been gained, push bulb in slightly and turn it counterclockwise as far as possible and pull it out of its socket. To install new bulb, line up pins on sides of bulb with the grooves in socket and push in place and turn clockwise to lock it in. Reassemble lamp and be careful of lamp lens seal (if so equipped).

Thermal Circuit Breakers and Fuse

One circuit breaker in the lighting circuit for the headlamps and parking lamps eliminates a fuse in the circuit. When current load is too heavy, the circuit breaker opens and closes rapidly, reducing current sufficiently to protect wiring until the cause is eliminated. A fuse in the light switch protects the instrument panel light circuit.

ENGINE

The Chevrolet valve-in-head truck engines are the prime factor in Chevrolet's outstanding performance and economy. They are designed to give long trouble-free life. Chevrolet's full-pressure lubrication system provides the correct amount of lubrication to all moving parts.

Full stroke length water jackets, surrounding all cylinders, provide uniform cooing and prevent cylinder distortion which would cause undue wear and poor oil economy. The water passages in the cylinder block and cylinder head properly direct the flow of water to provide uniform cooling of the engine.

Care. The engine oil level should be checked each time fuel is purchased and oil added when necessary. (See Lubrication Section.) The engine should be inspected occasionally for oil and water leaks and the necessary repairs made. Keep the engine clean externally.

Crankcase Filler and Ventilator

All 6-cylinder engine models are oil filled through the valve rocker cover. Crankcase ventilation is accomplished through a ventilator tube assembly located at the lower right side of the cylinder block on all except Forward Control and 2 ton models.

All V-8 engine models are oil filled through a combined oil filler and ventilator tube assembly located at the front of the intake manifold.

Forward Control, and Heavy Duty Tandem V-8 engine models are equipped with a positive ventilation system (as standard equipment) with a variable opening ventilator valve to regulate the amount of crankcase ventilation to meet changing operating conditions. This item is optional on all other Truck models. Have this unit cleaned by an Authorized Chevrolet Dealer at regular intervals of 10,000 miles or less, depending on operating conditions.

Manifold Heat Control Valve

The manifold heat control valve on 6-cylinder engines is located on the inside of the exhaust manifold (on the 8-cylinder light duty engine the valve is located between the exhaust pipe and exhaust manifold) and is operated by the thermo-

static spring, the center of which is attached to a slot in the valve shaft and the outer end bears against a stop pin on the manifold.

When the engine is cold the valve is in the "heat-on" position as shown in the left half of Figure 57 (as typical), and the hot exhaust gases are directed against the center of the intake manifold. As the engine warms up, the thermostatic spring moves the valve to the "heat-off" position as shown in the right half of Figure 57 and directs the exhaust gases away from the center of the intake manifold.

This thermostatic control maintains the proper temperature of the incoming gases under all operating conditions.

The tension of the thermostatic spring is very important. When it is too tight the heat will not be turned off the intake heat riser as the engine warms up, with the result that the incoming gases will be expanded several times greater in volume than in normal operation and it will be impossible to get a full charge of gas and air into the cylinders.

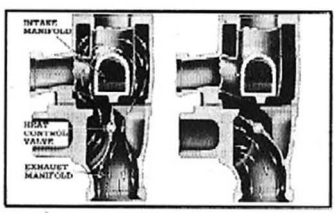


Fig. 57—Manifold Heat Valve (6-Cyl. Shown)

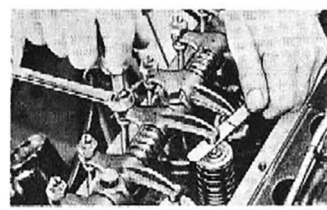


Fig. 58—Valve Tappet Adjustment (6-Cyl.)

Valve Tappet Adjustment

Valve tappet adjustment on 6-cylinder engines should be checked at first 2000 miles and at periodic intervals when the engine is thoroughly warmed up, preferably when the truck comes in from a run or after the engine has been run at fast idle for 30 minutes.

Check the clearance between the rocker arms and the valve stems with a feeler gauge (fig. 58). The valve clearances on 6-cylinder engines should be as follows:

	Intake	Exhaust
½, ¾ and 1 Ton	.006	.018
1½ and T Ton	.006	.020

The V-8 engines have hydraulic lifters and no adjustment is required except at periodic tune-ups.

Fuel Filter

If the engine is equipped with a fuel filter, the filter element should be replaced seasonally or at intervals of not more than 5,000 miles.

Fuel Pump and Strainer

The fuel pump is mounted on the right side of engine (fig. 59) and is operated by an eccentric on the engine camshaft. It pumps fuel from the fuel tank and delivers it to the carburetor. A fuel strainer is located in the fuel tank at the end of the pick-up pipe.

Care. The fuel pump should be checked regularly to make sure the mounting bolts, cover to body bolts, pulsator diaphragm cover screws and inlet connections are tight.

Governor

The governors are standard equipment on the large V-8 engine series trucks and optional equipment on all others.

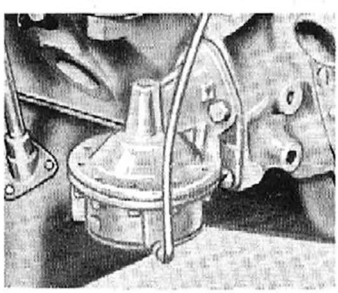


Fig. 59—Fuel Pump

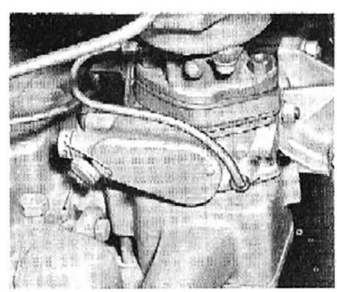


Fig. 60—Governor (6 cyl.)

The 6-cylinder engine governor is installed between the carburetor and the intake manifold (fig. 60) and automatically governs the speed at which the engine and truck may be operated. The adjusting cap is locked with a seal which should be left in place or a new seal installed when adjusting the engine speed as this is the only protection against tampering by unauthorized persons.

The V-8 engine governor consists of two primary units, one of which is the centrifugal control valve built into the ignition distributor. The other unit is a vacuum operated diaphragm which is part of the carburetor and is linked to the throttle.

Care and Maintenance. The attaching bolts should be kept tight, the governor should be kept clean externally and the filter element should be replaced every 10,000 miles. If the governor requires other service attention the vehicle should be taken to a Chevrolet dealer.

Oil Filter

If oil filter lines (on 6-cylinder engines) are removed and vehicle is to be operated without a filter, a jumper line must be connected between the fittings on the cylinder block. Do not plug fittings in the block as this will cut off oil circulation.

TUNE-UP

In order to enjoy the performance and economy which Chevrolet built into the truck engine it must be kept properly tuned. Normally this service should be performed every 5,000 miles. A thorough engine tune-up requires the use of special equipment not generally in the hands of truck owners. For this reason it is advisable to have this service performed by a Chevrolet dealer. However, for the benefit of those owners who perform many of their maintenance repair operations we will outline the operations which should be given attention when tuning an engine.

Compression. Compression tests should be made before performing tune-up operations to determine the necessity for internal repairs—an engine with poor or uneven compression cannot be successfully tuned.

Spark Plugs. Remove, clean and adjust (page 64).

Battery. Check state of charge.

Battery Cables. Clean and tighten cable terminals.

Distributor. Clean and adjust distributor points. Inspect cap and rotor (page 62).

Ignition Timing. Check and adjust ignition timing (page 63).

Air Cleaner. Clean air cleaner (page 52).

Manifolds. Tighten manifold bolts to guard against intake and exhaust leaks.

Valve Clearance. Check and adjust valve lash to proper clearance (page 69).

Carburetor. Adjust idling speed and mixture (page 51 & 52).

Cooling System. Tighten all hose connections. Check fan belt adjustment and the cooling system for coolant leaks.

Road Test. After the engine is tuned the truck should be road tested for performance. During this test the octane selector should be adjusted for the grade of fuel being used. For best performance and economy the octane selector should be set to produce a slight "ping" upon acceleration at wide open throttle.

FRONT AXLE (FORWARD CONTROL ONLY)

Care. The front axle and its connections should be checked regularly for wear or looseness, especially for loose spring to axle "U" bolts, loose steering tie rod and drag link joints and for bent tie rod, drag link or steering arms.

Alignment. To provide easy steering, normal tire life and road stability and to prevent such troubles as shimmy, wander, tramp and tendency to lead to right or left, it is necessary to maintain correct front end alignment.

Since considerable expensive special equipment is required to properly check and adjust all the factors of front end alignment, it is advisable to take the truck to a Chevrolet dealer for this service when the front end alignment requires attention.

FRONT SUSPENSION (ALL EXCEPT FORWARD CONTROL)

Care. The front suspension should be checked for looseness in the control arm bushings, spherical joints, or steering linkage (which may show up as "shimmy" while vehicle is in operation).

At the first 1000 miles, and 1000 miles after any front end alignment correction is made, the upper control arm shaft attaching nuts should be re-torqued to:

10 series 60-75 ft. lbs. torque

20 series 85-110 ft. lbs. torque

30-40 series 120-155 ft. lbs. torque

Alignment. To gain the most in comfort and ease of operation it is important that the front suspension be held in alignment. A suspension that is not in alignment will cause "shimmy," wander or incorrect tire wear. Any indication of these conditions will show the need for realignment. As this alignment procedure requires the use of special equipment and training, it is important that this operation be performed by a Chevrolet dealer.

PROPELLER SHAFTS AND UNIVERSAL JOINTS

When the universal joints are lubricated regularly as instructed in the "Lubrication" section in this booklet, they will require very little other care or maintenance. The universal joint "U" bolt nuts should be checked occasionally to be certain they are tight. Do not overtighten as bearing cups will be distorted.

REAR AXLE

The rear axles used on Chevrolet trucks require very little care or attention. The lubricant level should be checked at each chassis lubrication and the differential carrier and inspection cover bolts should be kept tight.

SPRINGS AND SHACKLES

The Forward Control models use leaf springs front and rear and all others except the 10-20 series trucks use leaf springs in the rear.

Keep the spring to axle "U" bolts and the shackle bolts properly tightened.

STEERING GEAR

Check the steering gear to frame bolts regularly to be certain they are tight. Keep the pitman arm to pitman shaft nut tight. Keep the housing side and end covers tight to prevent lubricant loss and prevent steering from loosening. Add lubricant when necessary, and check gear at every chassis lubrication to be certain gear is full.

Steering gear adjustment is a very important operation and requires the use of a special checking scale. Therefore, it is suggested that this service be performed by a Chevrolet dealer.

TANDEM SUSPENSION

After the first 500 miles of operation, the torque rod ball stud nuts should be retorqued to 275-300 ft. lbs. The spring saddle cap stud nuts should be retorqued to 275-300 ft. lbs.

TIRES

TUBELESS TIRES

Tubeless tires, mounted on one piece, full drop center rims, are used on several different series Chevrolet Trucks. These

tires have a safety inner liner which, if punctured, tends to cling to the penetrating object forming a partial seal until the object is removed from the tire. It is therefore now even more essential to conduct a periodic pressure check according to the table at the end of this section plus a visual tire inspection to detect imbedded objects which might otherwise go unnoticed and cause serious casing damage.

Inspection for Leaks

1. With wheel assembly removed from vehicle, inflate the tire to recommended operating pressure (see table at end of this section).
2. Lower assembly into water tank or run water over tire to locate leak. Mark location of leak with crayon.

Demounting and Mounting

All tubeless tires used on Chevrolet trucks with the exception of the 6.50-16 and 6.70-15 sizes (used on ½ ton models) should be demounted and mounted as described in this section. The 6.50-16 and 6.70-15 tires may be demounted using present tire machines or standard tire irons following the same procedure employed in servicing tube type tires.

> ***CAUTION: A hammer or tools with sharp edges should never be used to demount or mount tubeless tires as damage to rim flange or tire sealing bead may result.***

Demounting (all except 6.50-16 and 6.70-15 tires)

1. Remove valve core to completely deflate tire. With tire lying flat on floor, loosen beads from rim seats by walking

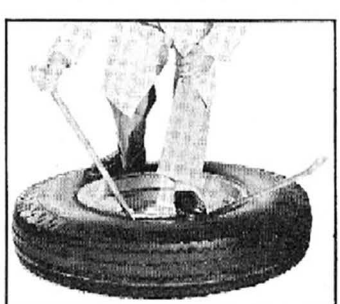


Fig. 61—Inserting Tire Iron to Lift Bead

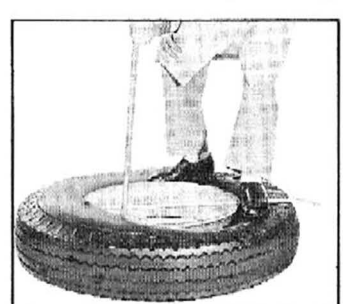


Fig. 62—Lifting Bead Over Rim

around on tire with heels at points close to rim. With wide side of rim down, apply tire lubricating soap to top bead. With stops toward rim, insert spoon ends of two tire irons about 10" apart. While standing on tire to hold bead in gutter, pull one tool toward center of rim (fig. 61).

2. Hold one iron in position with foot and pull second iron toward center of rim. Progressively work bead off rim, taking additional bites if necessary (fig. 62).
3. Stand assembly in vertical position. Lubricate second bead. At top of assembly insert straight end of tire iron between

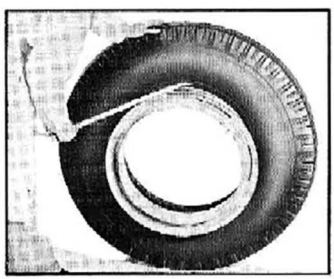


Fig. 63—Inserting Tire Iron In Second Bead

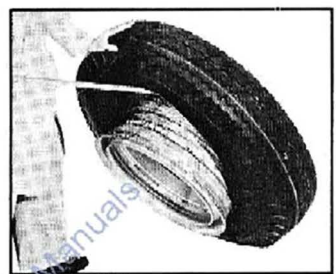


Fig. 64—Prying Second Bead From Rim

bead and back flange of rim at about a 45 degree angle (fig. 63).

4. Turn iron so that it is perpendicular to rim. Pry second bead off (fig. 64).

Mounting (all except 6.50-16 and 6.70-15 tires)

1. Inspect rim to insure bead seats are clean and smooth. Then place rim on floor with wide side down and lubricate first bead of tire and upper bead seat of rim (fig. 65).

Fig. 65—Lubricating Tire Bead

Fig. 66—Working Bead onto Rim

2. Push first bead into well of rim and onto rim as far as possible. Using straight end of tire iron and with stop resting on rim flange, work remaining section of first bead over rim (fig. 66).
3. Hold second bead in well by standing on tire. When necessary, push section of bead into rim well and anchor with visegrip pliers by pinching pliers on rim flange. Using spoon end of tire iron with stop toward rim, work progressively around bead, using small bites until bead slips over flange onto rim base. If necessary, insert second tire iron and lubricate last 6″ of bead before completing mounting (fig. 67).

Fig. 67—Working Second Bead onto Rim

4. Check valve to be certain that hex nut at the valve base is tight. Inflate tire to recommended operating pressure (see table at end of this section.) Check assembly for air leaks.
5. Rebalance assembly (see "Tire Balancing" at end of this section).

Mounting (6.50-16 and 6.70-15 tires)

1. Use present tire machines or standard tire irons following the same procedure used in mounting tube type tires; however, extreme care must be exercised to prevent injury to the sealing bead when forcing tire over the rim. A light application of rubber lubricating soap on the last ⅓ of each bead circle to be mounted will ease mounting.
2. With tire beads still unseated, rotate tire on wheel so that balance mark on tire lines up with the valve stem.
3. Start tire beads into the rim bead seats as follows:

   If a tire mounting machine is being used, lift the tire high in the rim forcing the top tire bead against the top rim flange seating the top bead. The lower bead will be seated by the tire weight.

   When a tire mounting machine is not being used beads may be seated by holding the tire and wheel assembly in a vertical position and bouncing on the floor at various points about the tire circumference.

NOTE: If a seal cannot be effected in the foregoing manner with the rush of air, it can be accomplished by applying a mounting band or heavy sash cord to the circumference of the tire and then tightening with a tire iron.

4. Install valve core and inflate tire with quick "shots" of air to firmly seat the sealing beads.
5. Check assembly for air leaks, then reduce tire pressure to that recommended for vehicle operation. See "Tire Inflation" at the end of this section.
6. Rebalance assemblies—see "Wheel and Tire Balancing" at end of this section.

Repairing Tubeless Tires

There are several methods of repairing tubeless tires advocated by the tire manufacturers, all of which are based on their combined experience. Methods which have proven very satisfactory for repair of punctures not exceeding $\frac{3}{16}$" diameter are outlined in this section, while repair procedure for punctures in excess of $\frac{3}{16}$" are not herein covered due to the wide variance in the type of repair required for injuries of this magnitude.

Chevrolet recommends the use of either of two types of patches for repair of tubeless tires. Both types are currently available from the tire manufacturers and are merchandised in kits which also contain the necessary hand tools and other material for a complete tire repair job.

The recommended patch types are:

1. The Self-Vulcanizing Cold Patch.

No heat is required in the use of this patch as vulcanization is chemically performed upon application of the patch. This type of patch has been found to give excellent results on all standard production type tubeless tires, but should under no circumstance be used on puncture sealing tires incorporating a soft sealant material in the inner liner.

2. The Hot Patch.

This patch contains its own fuel and vulcanization takes place when this fuel is ignited. Previous experience has shown this type patch to be very satisfactory for repair of all types of tubeless tires.

Prior to the application of either of the above mentioned patches the tire injury must first be cleaned and filled as described in the following paragraphs:

Cleaning Injured Area

1. Probe the injury with an awl or hand rasp to remove puncturing object and other foreign material (fig. 68).

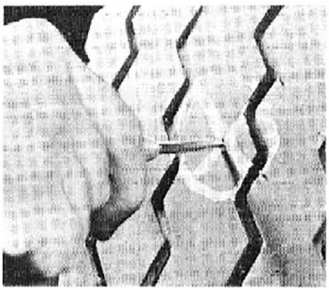


Fig. 68—Cleaning Injured Area

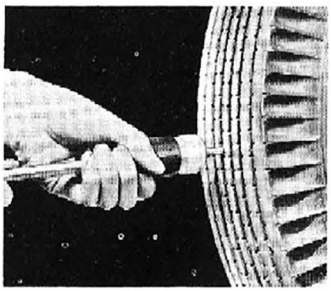


Fig. 69—Filling Injured Area With Liquid Rubber

2. Thoroughly clean inside of tire around injury with a commercial rubber solvent. Allow the cleaned area to dry.

CAUTION: When rubber solvent is used, flammable vapors should afterward be blown from the tire with compressed air.

Filling the Injury

Either of the following methods may be used to fill the injury:

1. With a tire sealing gun, fill injury with liquid rubber by holding gun tip firmly against puncture and forcing sealant through to opposite side of tire (fig. 69).

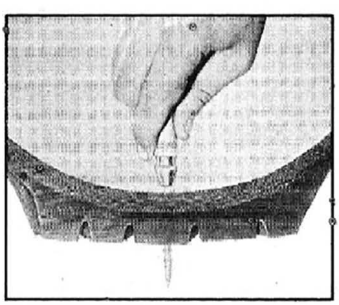


Fig. 70—Installing Awl Needle Through Tire

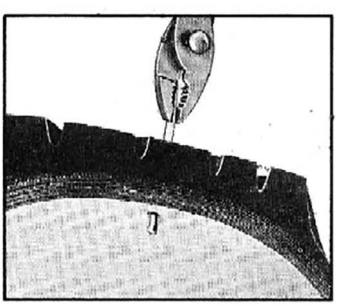


Fig. 71—Installing Filler Rubber in Tire

2. Using a tubeless tire awl, fill injury with rubber strip as follows:
   a. Clean awl needle and dip in self-vulcanizing fluid and from inside of tire, force needle through puncture until point extends beyond tread (fig. 70).
   b. Remove detachable handle from needle. Cut ⅛" strip of filler rubber and place in awl needle hole with end of rubber strip extending beyond needle. Pull needle through tire with pliers (fig. 71).

      NOTE: Filler rubber will now be secure in puncture.

   c. Using the awl, pack into the tire as much as possible of the protruding portion of the rubber strip. Cut off excess length flush with tire surface.

Applying the Patch

With the application of either of the preferred type patches described below, it is necessary to first use a fine wire brush to thoroughly roughen an area about the injury slightly larger than the patch to be applied.

CAUTION: If wire brush is mounted in power tool, care must be exercised not to cut through inner liner.

1. The Self-Vulcanizing Cold Patch.
   a. Apply self-vulcanizing cement over buffed area and allow to dry for a minimum of five minutes.

      NOTE: This time factor is important.

   b. Remove foil backing from patch base and place patch over injury. Stitch down firmly, especially at edges, to permit good adhesion and easy removal of paper cover from patch (fig. 72).

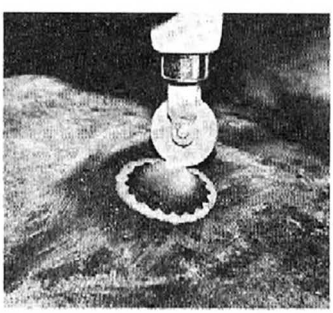


Fig. 72—Stitching Cold Patch

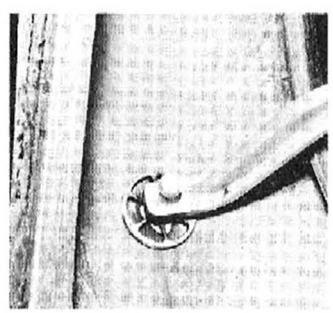


Fig. 73—Hot Patch Clamp Installed

NOTE: The tire may be put into service immediately.

2. The Hot Patch.
   a. Remove backing from patch and carefully center patch over injury. Place clamp over patch and tighten only finger tight (fig. 73).
   b. Ignite patch and allow to cool for at least 15 minutes or until cool to touch. Carefully remove metal pan and ashes remaining in tire.

NOTE: The tire may be put into service immediately.

Replacing Valves

The "snap-in" type rubber valve as used with the 6.50-16 and 6.70-15 tires should always be replaced by a new valve once it is removed from a rim.

To remove a "snap-in" valve from rim, force a small screwdriver blade between valve and edge of hole. Then, while prying on valve to start groove out of hole, push the valve back through the rim.

The one piece "snap-in" valve is installed as follows:

1. Clean all foreign material from area around valve hole in rim with steel wool.
2. Use water on a very light film of tire mounting soap to lubricate outside of valve.

CAUTION: Do not use oil, grease or hand soap.

3. Insert valve from inside rim and work into snapped in position using either a valve installer tool or a pair of slip-joint pliers with one jaw placed on the rim and the other jaw on base of the valve assembly.

CAUTION: Do not attempt to hammer the valve into rim.

Tire Inflation

Tire pressures should be checked at least once a week and inflated according to the table at the end of this section. If payload distribution or special equipment is such as to impose heavy loads on the front axle, inflation of front tires should be increased accordingly but should not exceed pressure shown for rear tires.

Avoid underinflation to prevent rim bruises, excessive heat, and irregular or rapid wear.

Avoid overinflation to prevent tire ruptures, hard riding, irregular or rapid wear and reduction of skid resistance.

Valve caps should always be installed and tightened firmly to prevent dust and water entering and damaging valve seats. The caps also act as an air seal.

TUBE TIRES

Some Chevrolet commercial vehicles are equipped (at customer option) with synthetic rubber tires and tubes. It is important that these tires are properly inflated to assure normal tire life. See the inflation table at the end of this section.

Mounting Synthetic Tubes

1. Before installing tube in tire, clean inside of casing thoroughly.
2. Insert tube in tire and inflate until it is nearly rounded out.
3. Inspect rim for rust scale and bent flanges, clean rust scale and straighten flanges.
4. Using a brush or cloth swab, apply a solution of neutral vegetable oil soap to the inside and outside of tire beads and also to the rim side of tube. Do not allow soap solution to run down into tire.
5. When mounting tire and tube on drop center rim, follow the standard procedure. Be certain tire is centered on rim so that beads are out of rim well before inflating. Do not allow tire to hang loosely on wheel while inflating.
6. Center valve and pull it firmly against the rim. Hold in this position and inflate until beads are firmly seated on rim against flanges.
7. Completely deflate tire by removing valve core.
8. Reinflate tire to recommended pressure. See the table at the end of this section.

   CAUTION: When tube and flap are not properly lubricated and mounted, they will be stretched thin in the tire bead and rim region. This will cause premature failure.

9. Rebalance assembly—see "Wheel and Tire Balancing" at the end of this section.

½ *Ton Tire Changing*

The drop center wheels used on ½ ton models have been so universally used on cars and light trucks for so many years that it can be assumed that all motorists are familiar with the procedure for changing tires; however, the special information above pertaining to synthetic tubes should be carefully followed.

¾ *Ton Tire Changing—Demounting*

1. Completely deflate tire by removing valve core.
2. Support wheel disc (retaining ring side up) on three or four wood blocks (2" x 4" block 3" or 4" long) to keep tire off the floor.
3. Loosen the tire bead from its seat in the rim by driving the flat end of the tire iron between the head and the rim. Hold the iron down on the side wall to avoid cutting the bead, and make sure the iron is driven in until it strikes the rim. Apply downward pressure on the tire iron to force the bead away from the retaining ring. Continue around the tire until it is loosened all the way around and the retaining ring can be moved from its support on the gutter diameter and into the gutter well.
4. Insert curved end of tire iron in the square notch in the retaining ring and pry out and up while holding the ring down into the gutter at the opposite side (fig. 74). Continue this operation until the cutaway portion of the retaining ring nearest the tire iron spans the outside diameter of the rim gutter.
5. Continue to pry the remainder of this half of the retaining ring from the gutter by moving progressively toward the other cutaway portion in the ring.
6. The remainder of the retaining ring can now be pried out of the gutter and the ring removed.
7. Turn the wheel over and place it on the blocks with the ring side down; then force tire from wheel rim. Remove tire flap and tube from tire.

¾ *Ton Tire Changing—Mounting*

1. Remove all rust scale from the rim and retainer ring.
2. Insert tube in tire and inflate until tube is nearly rounded out.

3. Lubricate tire beads, rim side of tube and both sides of flap with a solution of neutral vegetable oil soap or Ru-Glyde rubber lubricant. Insert flap in tire.
4. Place the wheel (rim flange down) on three or four small blocks.
5. Place tire on rim with the valve in line with the valve hole in the rim. Insert valve through hole, then work the tire onto the rim until the outer bead clears the rim gutter.
6. Place the retainer ring on the wheel rim and start the side of the ring opposite the square notch into the rim gutter, at "C" (fig. 75) making sure the two cutaway portions of the ring rest on the sides of the wheel at "A". Hold the first portion of the ring in the rim gutter and pry the remaining portion over the wheel rim. To pry the last portion into place, insert the tire iron in the notch "B", thus putting tension on the ring, and tap the ring with a hammer until it drops into place.

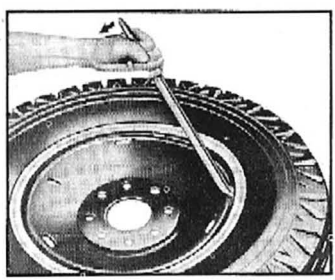


Fig. 74—¾ Ton Tire Removal

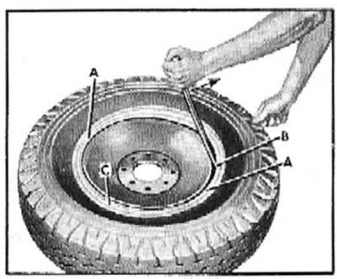


Fig. 75—¾ Ton Tire Installation

7. Inflate slowly to not more than 10 pounds pressure. See that the retainer ring is properly seated on its support in the rim gutter (tapping lightly with a hammer will help seat it firmly), and make sure that the tire bead rests evenly against the rim.
8. Turn the tire and wheel over with the ring down, or lean it against a wall with the ring side in. Completely deflate tire by removing valve core and then reinflate to recommended pressure. See tire inflation table at end of section.
9. Rebalance assembly—see "Wheel and Tire Balancing" at end of this section.

1, 1½, 2 and 2½ Ton Equipped with 3 Section Wheel

Demounting Tire

1. Completely deflate tire by removing the valve core.
2. Using a hammer, tap around the side ring progressively to move it in toward the center of the rim until it clears the clamp ring (fig. 76).
3. Starting at the split in the clamp ring, raise its end out of the rim gutter using a screwdriver and the tire iron (fig. 77). Then remove the clamp ring by prying it out of the gutter with the tire iron, moving progressively around the rim (fig. 78).

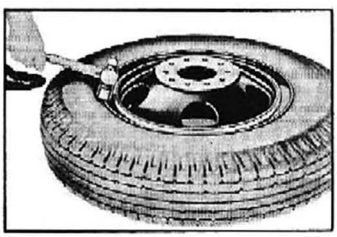


Fig. 76—Releasing Tire Clamp Ring

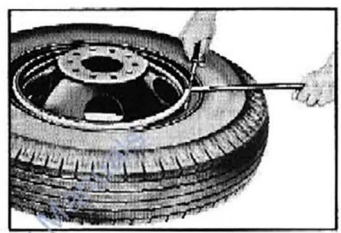


Fig. 77—Raising End of Clamp Ring

4. Drive the curved end of the tire iron in between the side ring and the entire bead (fig. 79). Then pry down on the opposite end of tire iron to move the tire bead away from the side ring flange (fig. 80). Continue the foregoing operation progressively around the tire until the side ring is removed. In some cases it may be necessary to work around the tire a couple of times.

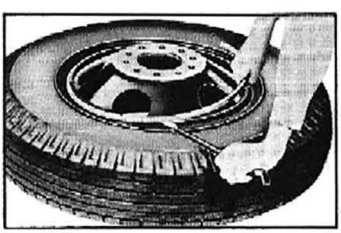


Fig. 78—Removing Tire Clamp Ring

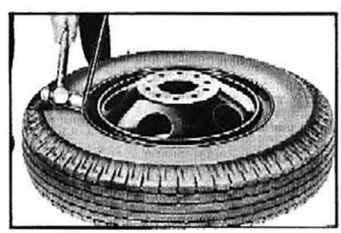


Fig. 79—Starting Side Ring Removal

NOTE: The tire bead seat on the side ring is slightly tapered, which makes removal of the ring much easier.

5. Push the valve stem up inside the tire to prevent damage while removing the tire. The tire may be removed from the rim by following the procedure described in Item 4.

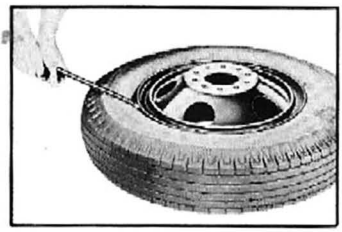


Fig. 80—Removing Side Ring

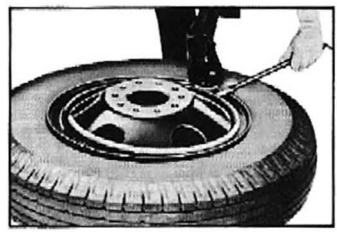


Fig. 81—Installing Clamp Ring

Mounting Tire

1. Remove all rust scale from the rim, side ring and clamp ring.
2. Insert tube in tire and inflate until tube is nearly rounded out.
3. Lubricate tire beads, rim side of tube and both sides of flap with a solution of neutral vegetable oil soap or Ru-Glyde rubber lubricant. Insert flap in tire.
4. Place tire on rim with valve in line with the valve hole in rim. Insert valve through hole; then work tire onto rim.
5. Place side ring into position on tire and rim; press side ring into tire and onto rim using the tapered end of tire iron until the clamp ring gutter is exposed. Insert end of clamp ring in gutter and work progressively around the tire until the clamp ring is seated in the gutter (fig. 81).
6. Inflate tire slowly while checking to see that side ring moves out over the clamp ring locking it into gutter. Completely deflate tire and then re-inflate to recommended pressure. See inflation table at end of this section.
7. Rebalance assembly—see "Wheel and Tire Balancing" at end of this section.

1½ Ton Special, 2 Ton and LCF Equipped with 2 Section Rims

To facilitate assembly and removal, two cutaway sections "A" (fig. 82) and an operating notch "B" are incorporated in the locking flange of the side ring.

In separating the side ring from the wheel rim of the spare

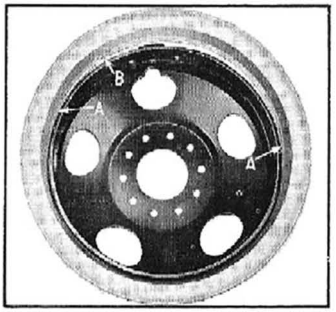


Fig. 82—Two Section Rim

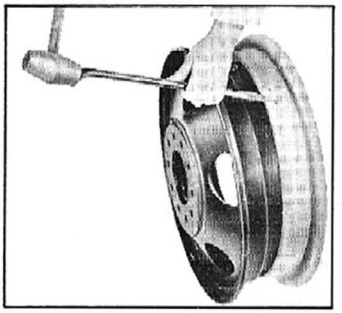


Fig. 83—Separating Side Ring From Wheel Rim

or new wheel for tire installation, stand the wheel up with the operating notch in the side ring at the top. The straight end of a tire iron is inserted and driven into the operating notch (fig. 83). The tool is moved as a lever to lift the side ring away from the rim. After the side ring has passed over the rim gutter at the operating notch, work progressively around entire rim until side ring is separated from wheel rim.

Demounting the Tire

1. Completely deflate tire by removing the valve core.
2. Loosen the tire bead from its seat in the side ring by driving the bead loosening end of a tire iron between the tire bead and the side ring (fig. 84). Repeat this operating progressively around the side ring prying until bead is loose.
3. Insert straight end of tire iron into operating notch located at double pimples "B" (fig. 85).

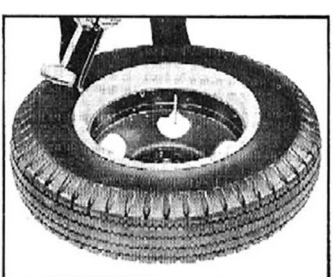


Fig. 84—Loosening Bead Seat

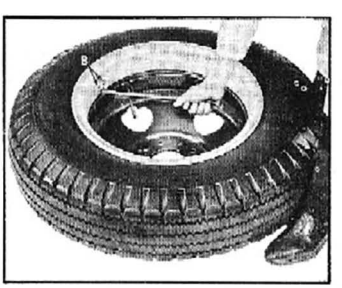


Fig. 85—Disengaging Side Ring From Rim Gutter

4. Push side ring down at point opposite operating notch and force handle down causing side ring to disengage from rim gutter. Repeat progressively around side ring prying ring from rim gutter until free.

5. To free opposite tire bead from wheel rim, turn tire over and repeat bead loosening operation (fig. 86).

NOTE: It is not necessary to remove side ring from tire bead if tire is to be removed for tube repair only. Simply loosen tire bead from rim as in Figure 84. Then turn assembly over and remove ring with tire attached as in Figure 86.

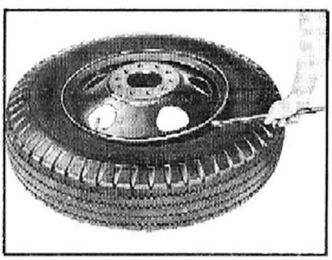


Fig. 86—Loosening Opposite Tire Bead

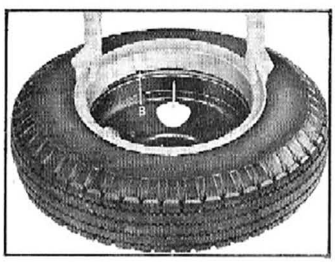


Fig. 87—Positioning Side Ring

Mounting the Tire

1. Remove all rust scale from wheel rim and side ring.

2. Insert tube in tire and inflate until tube is nearly rounded out.

3. Lubricate tire beads, rim sides of tube and both sides of flap with a solution of neutral vegetable soap or Ru-Glyde or similar rubber lubricant. Insert flap in tire.

4. Place disc portion of wheel on floor with rim gutter up and install tire and tube assembly indexing tube valve stem with stem support in wheel rim and with valve stem pointing in desired direction.

5. Place side ring in position with operating notch "B" (fig. 87) approximately three inches from valve on either side.

6. The two cutaway sections opposite each other "A" (fig. 88) on inner diameter of side ring are positioned so as to span the rim gutter.

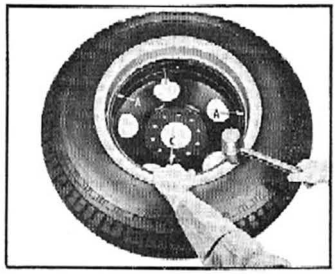


Fig. 88—Cutaway Section Location

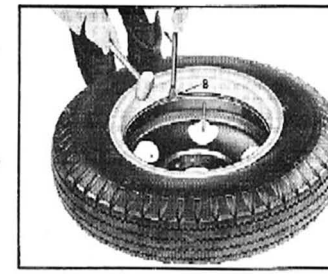


Fig. 89—Engaging Side Ring Over Rim Gutter

7. At point "C" (fig. 88), opposite valve, force ring into rim gutter as far as possible.
8. Insert straight end of tire iron into operating notch "B" (fig. 89). Then pull in direction indicated.
9. Retain pressure with tool and strike side ring downward at a point between operating notch and cutaway section, thereby engaging side ring over rim gutter at these points.
10. Remove tool and strike blows progressively toward other cutaway section until entire toe of side ring has passed over rim gutter.
11. While side ring is being applied to wheel rim, it is tight and requires force or hammer blows to complete application. When side ring is completely installed on rim, it is no longer tight and can be depressed or will yield to a hammer blow. Precaution should be taken to see that side ring is not binding on rim and can be freely depressed (fig. 90) before inflating tire.

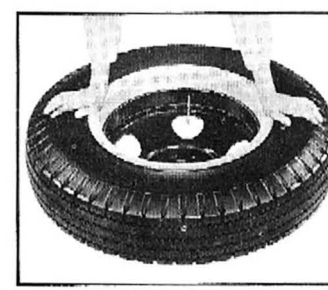


Fig. 90—Checking Side Ring

12. With 2 section rims, after rim and tire are installed, inflate to approximately 75 lbs. or until the two parts center and lock. A snap can usually be heard as ring centers and moves outward onto bead seat. Deflate and reinflate to recommended pressure. See inflation table at end of this section.
13. See "Wheel and Tire Balancing" at end of this section.

Tire Inflation

Tire pressures should be checked at least once a week and inflated according to the table at end of this section.

AVOID UNDERINFLATION to prevent pinched tubes, rim bruises, excessive heat, and irregular or rapid wear.

AVOID OVERINFLATION to prevent tire ruptures, hard riding, irregular or rapid wear and reduction of skid resistance.

VALVE CAPS should always be installed and tightened firmly to prevent dust and water entering and damaging valve seats. The caps also act as an air seal.

ALL TIRES

Tire Rotation

The rotation of truck tires will minimize tire trouble and produce longer tire life. Without rotation, accelerated and irregular tire wear on any particular tire will not be spread out over the entire set, and replacement frequency is boosted. Tire wear will also contribute to such trouble as poor handling and shimmy.

No definite tire rotation formula is applicable to all trucks because of the wide range of usage. However, certain fundamentals, mixed with experience and observation, will assist the trucker in reducing tire costs.

A rotation sequence that moves the front tires to the rear is a general recommendation. Due to different loading conditions on the wheels, new tires which are broken in on the front wheels usually produce the greatest overall tire life.

Six wheel trucks with unmatched tires may be rotated by crossing front tires and by exchanging inner and outer tire positions on the dual wheels.

The outer tire on a dual wheel will skid or drag on a turn because of the difference in the turning radii of the inner and outer tires. This results in faster wear of the outer tire. In general, the tire with the largest diameter or least wear should be at the outside of each dual wheel. In addition, certain truckers have found when trucks are operated continuously on high crown roads an increase in air pressure of from 5 to 10 pounds in the outside tire of each dual produces maximum tire life.

TIRE INFLATION TABLES FOR HIGHWAY SERVICE

TIRE SIZE		TIRE CAPACITY AT VARIOUS INFLATION PRESSURES (PSI)							
Tubeless	Tube	Max. Cap. (Lb.)	24	26	28	30	32	34	36
6.70-15/4 PR	6.70-15/4 PR	1115	955	1010	1065	1115	—	—	—
6.70-15/6 PR	6.70-15/6 PR	1215	—	955	1010	1065	1115	1165	1215
7.10-15/4 PR	7.10-15/4 PR	1195	1025	1080	1140	1195	—	—	—
6.00-16/6 PR	6.00-16/6 PR	1205	910	965	1015	1065	1110	1160	1205
6.50-16/4 PR	6.50-16/4 PR	1280	1045	1105	1165	1225	1280	—	—
6.50-16/6 PR	6.50-16/6 PR	1380	1045	1105	1165	1225	1280	1330	1380

TIRE SIZE		Max. Cap. (Lb.)	TIRE CAPACITY AT VARIOUS INFLATION PRESSURES (PSI)										
Tubeless	Tube		40	45	50	55	60	65	70	75	80	85	90
7-17.5/6 PR	7.00-15/6 PR	1520	1420	1520	—	—	—	—	—	—	—	—	—
7-17.5/8 PR	7.00-15/8 PR	1800	1420	1520	1620	1715	1800	—	—	—	—	—	—
8-17.5/6 PR	7.00-17/6 PR	1735	1620	1735	—	—	—	—	—	—	—	—	—

—	7.00-17/8 PR	2060	1620	1740	1850	1960	2060	—	—	—	—	—	—
8-17.5/8 PR	7.50-15/8 PR	2060	1620	1735	1850	1965	2060	—	—	—	—	—	—
8-19.5/6 PR	—	2090	1830	1960	2090	—	—	—	—	—	—	—	—
—	7.00-18/8 PR	2140	1690	1810	1920	2040	2140	—	—	—	—	—	—
8-19.5/8 PR	7.50-17/8 PR	2440	1830	1960	2090	2220	2330	2440	—	—	—	—	—
8-19.5/10 PR	—	2650	1830	1960	2090	2220	2330	2440	2545	2650	—	—	—
—	7.50-18/10PR	2865	1900	2040	2170	2300	2420	2540	2650	2760	2865	—	—
7-22.5/6 PR	6.50-20/6 PR	1870	1640	1760	1870	—	—	—	—	—	—	—	—
7-22.5/8 PR	6.50-20/8 PR	2180	1640	1760	1870	1980	2080	2180	—	—	—	—	—
—	7.00-20/8 PR	2310	1820	1950	2080	2200	2310	—	—	—	—	—	—
—	7.00-20/10 PR	2530	1820	1950	2080	2200	2310	2420	2530	2630	—	—	—
8-22.5/8 PR	7.50-20/8 PR	2740	2060	2210	2350	2490	2620	2740	—	—	—	—	—
8-22.5/10 PR	7.50-20/10 PR	3090	2060	2210	2350	2490	2620	2740	2850	2980	3090	—	—
9-22.5/10 PR	8.25-20/10 PR	3330	2400	2570	2730	2890	3040	3180	3330	—	—	—	—
9-22.5/12 PR	8.25-20/12 PR	3730	2400	2570	2730	2890	3040	3180	3330	3460	3600	3730	—
10-22.5/10 PR	9.00-20/10 PR	3960	—	3040	3240	3440	3620	3790	3960	—	—	—	—
10-22.5/12 PR	9.00-20/12 PR	4480	—	3040	3240	3440	3620	3790	3960	4120	4280	4480	—
11-22.5/12 PR	10.00-20/12 PR	4580	—	—	3600	3820	4020	4220	4410	4580	—	—	—
11-22.5/14 PR	10.00-20/14 PR	5210	—	—	3600	3820	4020	4220	4410	4580	4750	4930	5210

Wheel and Tire Balancing

It is desirable from the standpoints of tire wear and vehicle handling ease to maintain proper balance of front wheel and tire assemblies on all models. All wheels intended for use on front of vehicle, such as those switched during periodic tire rotation and those installed as new or repaired replacement equipment should be accurately balanced. This may be accomplished by either of the two types of balancing systems in current use which balance wheels either on the vehicle or off. However, the "on the vehicle" type is the more desirable in that all rolling components (such as brake drums, bearings, seals, etc.) are included in the balancing procedure and thereby have any existing unbalance corrected.

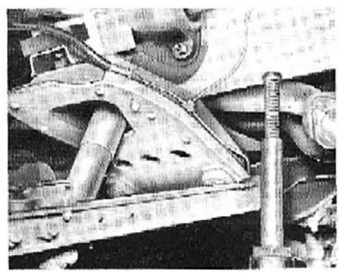


Fig. 91—Jacking Block

Vehicle Jacking Instructions

The following chart will assist in performing wheel and tire assembly changes with the vertical type emergency jacks supplied with or recommended for use on 1960 Chevrolet trucks.

NOTE: Never attempt to raise vehicle by placing jack under torsion bar.

Models	Jacking Point on Vehicle	
	Front	Rear
10, 20, 30	Lower Arm Pivot or Torsion Bar Socket	Axle Housing
40	Frame Side Rail ahead of steering gear or idler support	Spring, ahead or behind axle
50, 60, 70, 80	Frame Side Rail behind front cross member‡	Spring ahead of axle

‡Hardwood block furnished for use between front cross member and upper control arm to reduce jack travel required (fig. 91).

TRANSMISSION

AUTOMATIC TRANSMISSIONS

The fluid level in all three automatic transmissions must be checked every 1000 miles as outlined under "Lubrication—Automatic Transmission." Periodic fluid draining is also covered in the "Lubrication" section of this booklet.

The Hydra-Matic transmission bands must be adjusted at the end of the first 1500 miles. They must be adjusted every 10,000 miles thereafter.

On the Powermatic transmission, the full flow oil filter cartridge should be replaced at regular intervals as outlined in the "Lubrication" section.

SYNCHRO-MESH TRANSMISSIONS

The 3-, 4- and 5-speed transmissions require very little care or maintenance. The lubricant level should be checked at regular intervals and lubricant added as necessary. See the instructions in the "Lubrication" section for further information.

WHEELS AND WHEEL BEARINGS

WHEELS

Either demountable steel disc, or cast spoke wheels will be used; however, all one type will be used on any given vehicle.

On all vehicles equipped with cast spoke wheels, it will be necessary to retorque the wheel nuts every day for the first 500 miles and every 1000 miles thereafter. See "Specifications" for proper nut torque.

NOTE: If for any reason wheels have been changed, replaced, rotated, etc. refer to special balancing instructions at the end of the section on "Tires."

CAUTION: When removing wheel rim, loosen all nuts approximately flush with end of stud, then tap clamp to loosen rim. Do not remove nuts until clamps are free or clamp may fly off of stud. When installing rim, tighten attaching nuts alternately and evenly to avoid excessive wheel run-out. See "Specifications" for proper nut torque.

WHEEL BEARINGS

These bearings should be readjusted every 30,000 miles (fig. 92).

Front—Adjustment

1. Raise front of vehicle and remove wheel and tire assembly. Remove hub cap and dust cap or plate from hub. Remove cotter pin.
2. Rotate hub and tighten adjusting nut to:
   40 ft. lbs. on all except 2½ ton models,
   60 ft. lbs. on 2½ ton models.
3. Back off adjusting nut as follows:

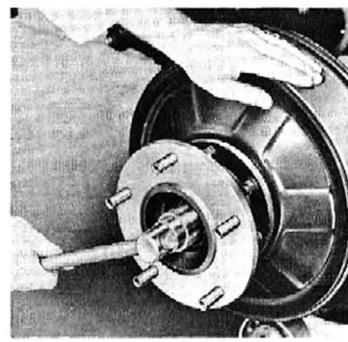


Fig. 92—Front Wheel Bearing Adjustment

On models with hubs mounted on ball bearings (10-40 series) back off adjusting nut until alignment with nearest hole in spindle is obtained, then install cotter pin.

On models with tapered roller bearings (50-80 series), back off nut ¼ turn minimum and install cotter pin if aligned with hole in spindle. If alignment with hole in spindle is not obtained, back off nut slightly, until the nearest castellation in nut lines up with a hole in spindle. This adjustment will result in wheel end play of .001″ to .010″.

4. Spin the drum to make sure it rolls freely. Lock the cotter pin. Install hub plate or dust cap and hub cap. Install wheel and tire assembly and lower the vehicle to the floor.

Rear

All models except the ½ ton (which have non-adjustable bearings) have the wheel hub mounted on the outer end of axle housing with two large roller bearings. An adjusting nut which screws onto the end of the axle housing provides a means of adjusting the bearings. However, the adjustment will not be covered here due to the need for special tools.

LUBRICATION

BODY LUBRICATION

Normal use of a truck causes metal-to-metal movement at certain points in the cab or panel body. Noise, wear and improper operation at these points will result when a protective film of lubricant is not provided.

Many of the annoying squeaks and noises that occur in closed bodies are due to neglecting a very important maintenance service which all bodies should receive regularly.

The movable mechanical parts of the body are lubricated at the factory for easy operation and to eliminate squeaks caused by frictional contact. This lubrication should be maintained and replenished at periodic intervals.

Most body lubrication points do not carry heavy loads like the chassis, and for this reason many of the points do not require as heavy nor as frequent lubrication as the chassis points.

For body lubrication, a specific kind of lubricant, the one best suited for individual points, should be used. Knowing what to use and where to use it, together with a little care and cleanliness, will bring many returns in the satisfaction and pleasure of driving a vehicle properly serviced.

For exposed surfaces, such as door checks, door lock bolts, lock striker plates, dovetail bumper wedges, etc., apply a thin film of light engine oil.

Where oil holes are provided in body parts a dripless oil can be safely used, but any lubricant should be used sparingly, and after application all excess should be carefully wiped off.

The seat adjusters and seat track, ordinarily overlooked, should be lubricated with cup grease, graphite grease, chassis lubricant or dripless oil—used sparingly.

There are other points on bodies which may occasionally require lubrication and which are difficult to service. Window regulators and controls are confined in the space between the upholstery and the outside door panel and, while it is possible in some cases to apply oil by drops to a long wire leading to the operating mechanism, it is not a practical procedure, as extreme care must be taken to keep the oil from contacting the trim on the inside of the door. Easy access to the working parts may be made by removing the trim. Door weatherstrips and hood rubber bumpers should be lightly coated with a rubber lubricant.

Overlubrication

Excessive lubrication of body parts usually causes more complaints than lack of lubrication. Too much lubrication applied to exposed parts serves no good purpose. It is not only a waste of material but is a contribution to serious complaints.

Lubricate only where squeaks develop, or where conditions indicate that the addition of lubricant is desirable for easier operation of individual units or points.

CHASSIS

For chassis lubrication, consult the lubrication charts, at end of this section, which show the points to be lubricated and how often the lubricant should be applied.

The term "Chassis Lubricant" as used in this manual, describes a semi-fluid lubricant designed for application by commercial pressure gun equipment. It is composed of mineral oil (usually 300 to 500 second Saybolt Universal viscosity at 100° F.) combined with approximately 8% soap, or soaps which are insoluble in water.

ENGINE

In your selection of the proper brand of oil, it is desirable to consider the reputation of the refiner or marketer. He is responsible for the quality of his product and his reputation is the truck owner's best indication of quality.

Your use of the proper engine oil is one of great importance in obtaining maximum performance and satisfaction from your truck.

The engine crankcase as delivered to you is filled with a high grade oil of the type designated "Service MS" (see "Types of Oil" below). It also contains a special "Anti-Wear" additive to assist in better "mating" of the moving parts. This oil should be drained after 1000 miles driving. During the first 1000 miles, check the oil level frequently and if it is necessary to add oil, use one of the "light body" oils described under "Oil Viscosity Numbers" in this Chapter. At the end of the 1000 mile period, drain crankcase when hot and refill with an oil of the viscosity number and type recommended.

Types of Oil—In service, crankcase oils form sludge and varnish and under some conditions corrosive acids unless

protected against oxidation. To minimize the formation of these harmful products and to supply the type of oil best suited for various operating conditions, the oil industry markets several types of crankcase oils. These types have been defined by the American Petroleum Institute as follows:

"Service ML" (Comparable to former Regular Type)—Generally suitable for use in internal combustion engines operating under light and favorable service conditions.

"Service MM" (Comparable to former Premium Type)—Oil having the characteristics necessary to make it generally suitable for use in internal combustion engines operating under moderate to severe service conditions which present problems of sludge, varnish or bearing corrosion control when crankcase oil temperatures are high.

"Service MS" and "Service DG" (Comparable to former Heavy-Duty Types)—Oils having the characteristics to make them generally suitable for use in internal combustion engines operating under unfavorable or severe types of service conditions. These are recommended for maximum engine protection under all driving conditions.

Oil Viscosity Numbers—SAE Viscosity Numbers indicate only the viscosity or body of the oil, that is, whether an oil is a light or a heavy body oil, and do not consider or include other properties or quality factors.

The lower SAE Viscosity Numbers, such as SAE 5W and SAE 10W which represent the light body oils, are recommended for use during cold weather to provide easy starting and instant lubrication. The higher SAE viscosity numbers such as SAE 20 and SAE 20W, which represent heavier body oils are recommended for use during warm or hot weather to provide improved oil economy and adequate lubrication under high operating temperatures.

Oils are available which are designed to combine the easy starting characteristics of the lower SAE Viscosity Number with the warm weather operating characteristics of the higher SAE Viscosity Number. These are termed "multi-viscosity oils;" SAE 5W-20, and SAE 10W-30.

The following chart will serve as a guide for the selection of the correct SAE Viscosity Number for use under different atmospheric temperature ranges, and suggests the appropriate SAE Viscosity Numbers when multi-viscosity oils are used.

If the lowest anticipated temperature during the interval in which the oil will remain in the crankcase, is:	The following SAE Viscosity oils are RECOMMENDED:	Multi-Viscosity oils RECOMMENDED:
32°F	SAE 20W or SAE 20	SAE 10W-30
0°F	SAE 10W	SAE 10W-30
Below 0°F	SAE 5W	SAE 5W-20

NOTE: For sustained high speed driving, when the prevailing daylight temperature is above 90°F, SAE 30 may be used.

Oil Pressure. If the oil pressure (on units equipped with a gauge) registers abnormally high after the engine is thoroughly warmed up, an inspection should be made to ascertain if the oil lines and passages are restricted.

Fig. 93—Oil Gauge Rod (Typical)

Maintaining Crankcase Oil Level. The Oil Gauge Rod (fig. 93) is marked "Full" and "Add Oil." These notations have broad arrows pointing to the level lines.

The oil level should be maintained between the two lines; neither going above the "Full" line nor under the "Add Oil" line.

Check the oil level frequently and add oil when necessary.

When to Change Crankcase Oil. To insure continuation of best performance, low maintenance cost and long engine life, it is necessary to change the crankcase oil whenever it becomes contaminated with harmful foreign materials. Under favorable driving conditions, draining the crankcase and replacing with fresh oil every 2000 miles is recommended.

Under the driving conditions described in the following paragraphs, it may become necessary to drain the crankcase oil more frequently.

Frequent long runs at high speed, or continuous driving with heavy loads, with the resultant high engine operating temperatures, may oxidize the oil and may result in the formation of sludge and varnish. While no definite drain periods can be recommended under these conditions, they should be more frequent than under normal driving conditions.

Driving over dusty roads or through dust storms introduces abrasive material into the engine. Carburetor air cleaners decrease the amount of dust that may enter the crankcase. The frequency of draining depends upon severity of dust conditions and no definite draining periods can be recommended but should be more frequent than under favorable driving conditions.

Short runs (trips under 10 miles) in cold weather, such as stop and go city driving, and excessive idling, do not permit thorough warming up of the engine and water may accumulate in the crankcase from condensation of moisture produced by the burning of the fuel. Water, in the crankcase, may freeze and interfere with proper oil circulation. It also promotes rusting and may cause clogging of oil screens and passages. Under favorable driving conditions this water is removed by the crankcase ventilator. But if water accumulates it should be removed by draining the crankcase as frequently as may be required.

It is always advisable to let the engine reach normal operating temperature before draining the crankcase. The benefit of draining is, to a large extent, lost if the crankcase is drained when the engine is cold as some of the suspended foreign material will cling to the sides of the oil pan and will not drain out readily with the slower moving oil. Flushing the crankcase with oils or solutions other than a good grade of SAE 10W engine oil is not recommended.

Crankcase Dilution

Probably the most serious phase of engine oil deterioration is that of crankcase dilution, which is the thinning of the oil by fuel vapors leaking by the pistons and rings and mixing with the oil.

Leakage of fuel, or fuel vapors, into the oil pan mostly occurs during the "warming-up" period, when the fuel is not thoroughly vaporized and burned.

Automatic Control Devices to Minimize Crankcase Dilution. The Chevrolet engine is equipped with automatic devices which aid greatly in minimizing the danger of crankcase dilution.

Rapid warming up of the engine is aided by the thermostatic water temperature control, which automatically prevents circulation of the water in the cooling system until it reaches a predetermined temperature.

Thermostatic heat control on the exhaust manifold, during the warming-up period, automatically directs the hot exhaust gases against the center of the intake manifold, greatly aiding the proper vaporization of the fuel.

Sparing use of the choke reduces danger of raw, or vaporized fuel entering the combustion chamber and leaking into the oil reservoir.

An efficient crankcase ventilating system drives off fuel vapors and aids in the evaporization of the raw fuel and water which may find its way into the oil reservoir.

Control by Truck Owner Under Abnormal Conditions. Ordinarily the above automatic control devices will minimize, or eliminate, the danger of crankcase dilution.

However, there are abnormal conditions of service when the truck owner must aid in the control of crankcase dilution.

Short runs (under 10 miles) in cold weather, such as stop and go city driving and excessive idling, do not permit the thorough warming up of the engine nor the efficient operation of automatic control devices. It is recommended that the oil be changed more often when the truck is subjected to this type of operation.

Poor mechanical condition of the engine, such as scored cylinders, poor ring fits, "sloppy" or loose pistons, faulty valves, and poor ignition will increase crankcase dilution. Keep your truck in good mechanical condition.

Poor fuels which contain portions hard to ignite and slow to burn will increase crankcase dilution. **Use good fuel.**

Water in Crankcase. Serious lubrication troubles may result in cold weather due to an accumulation of water in the oil pan.

A slight amount of exhaust gases passes the pistons and rings, even under the most favorable conditions, and cause the formation of water in the oil pan, in a greater or lesser degree, until the engine becomes warm. When the engine becomes thoroughly warm, the crankcase will no longer act as a condenser and all of these gases will pass out through the crankcase ventilator system. Short runs (under 10 miles) in cold weather, such as stop and go city driving, will aggravate this condition.

Corrosion. Practically all present day engine fuel contains a small amount of sulphur which, in the state in which it is found, is harmless; but this sulphur on burning, forms certain gases, a small portion of which is likely to leak past the pistons and rings and reacting with water, when present in the crankcase, form corrosive acids.

As long as the gases and the internal walls of the crankcase are hot enough to keep water vapor from condensing, no harm will result; but when an engine is run in low temperatures, moisture will collect and unite with the gases formed by combustion; thus, acid will be formed and is likely to cause serious etching or pitting. This etching, pitting or corrosion, when using fuel containing considerable sulphur, manifests itself in excessively rapid wear on piston pins, camshaft bearings and other moving parts of the engine, and can be traced back to the character of fuel used, or a condition of the engine, such as excessive blow-by or improper carburetor adjustment.

OIL FILTER. It is recommended that, under normal conditions, the filter cartridge be replaced after the first 1000 miles and every 2000 miles thereafter. This change should always be performed when the crankcase oil is changed.

Severe dust conditions may warrant replacing the cartridge at correspondingly lower mileages.

CAUTION: If oil filter lines are removed from 6 cylinder engines and vehicle is to be operated without a filter, connect a jumper line between the fittings on the cylinder block. Do not plug fittings as this will cut off all oil circulation.

WATER PUMP. The permanently sealed ball bearing water pump does not require lubrication by the truck owner.

STARTING MOTOR. Starting Motor end frames are equipped with oil-less bearings which do not require lubricant.

GENERATOR. Every 1,000 miles, fill oil cup at each end to the top with a light oil or engine oil.

BATTERY. Saturate battery terminal washer with engine oil every 1000 miles.

DISTRIBUTOR. On 6 cylinder models, turn down lubricant cup ½ turn every 1000 miles. Refill cup with chassis lubricant as necessary. Every 5000 miles, the distributor cap should be removed and ½ drop of light engine oil applied to breaker lever pivot and remove rotor and apply a small amount of Delco Ball Bearing and Oil Lubricant or high melting point wheel bearing lubricant on cam surface.

On 8-cylinder models with lubricator wick, fill hinge cap oiler with light engine oil every 1000 miles. Every 5000 miles, the distributor cap should be removed and ½ drop of light engine oil applied to breaker lever pivot. Do not use any lubricant on cam lubricator wick, replace wick when contact points are replaced.

On 8-cylinder models without the lubricator wick, fill the hinge cap oiler with light engine oil every 1000 miles. Every 5000 miles place a small drop of light engine oil on the breaker lever pivot and a trace of Delco Cam and Bearing Lubricant or other suitable high melting point grease to the breaker cam. Place a few drops of light engine oil on the wick in the camshaft under the rotor and on the felt wicks between the plates. Wipe off any excess oil appearing on the breaker plate.

On distributors having spinner governors, the spinner governor air cleaner should be cleaned in solvent every 5000 miles (dry with an air hose before reinstalling) and replaced every 10,000 miles, oftener under dusty or adverse driving conditions.

BRAKE AND CLUTCH PEDALS

On Forward Control models the clutch pedal is lubricated from a pressure gun lubrication fitting in the end of the shaft and the brake pedal is also equipped with a lubrication fitting.

On all Forward Control models, the clutch idler support is equipped with a lubrication fitting. Use chassis lubricant at these points.

FRONT AXLE AND TRANSFER CASE— FOUR WHEEL DRIVE MODELS

Most lubrication recommendations and procedures for 4 wheel drive equipped trucks remain the same as for corresponding components of conventional drive trucks. Only the front axle, including the differential and Carden joint, the transfer case, which transmits power from the transmission to either front or rear axles, and associated linkage points and air vents require special procedures.

FRONT AXLE

Differential

The front axle is initially filled with a special lubricant which should be drained at the end of the first 1000 miles and refilled with SAE 90 "Multi-purpose" Gear Lubricant. With the differential at operating temperature, fill to the level of filler

plug hole. If differential is cold, fill to level of ½" below the filler plug hole. Drain and refill in the same manner every 10,000 miles thereafter. Capacity: 3¾ pt.

Carden Joint

After every 1,000 miles of driving, remove the slotted pipe plugs from the ball ends of the axle housings. Check lubricant and refill with SAE 90 Multi-Purpose lubricant if necessary. Replace the pipe plugs securely.

Wheel Bearings

The wheel bearings receive their lubricant from the Carden Joint and require no extra attention.

AIR VENTS

The air vents in the front axle and in the transfer case should be cleaned in solvent and dipped in engine oil every 1000 miles.

TRANSFER CASE

Check the transfer case level every 1000 miles and, if necessary, add lubricant to bring to the level of the filler plug hole. Either SAE 90 "Multi-purpose" Gear Lubricant or Straight Mineral Oil SAE-90 may be used. Drain and refill the transfer case with the same lubricant every 10,000 miles. Capacity: 6 pints with Power Take-off, 5 pints without Power Take-off.

Control Lever and Linkage

Since no grease fitting is provided in the control lever it is necessary to brush or spray engine oil on the lever pivot point and on all exposed control linkage every 1000 miles.

FULL AIR BRAKES

COMPRESSOR

2000 miles—Remove compressor air strainer and wash all parts including curled hair in cleaning solvent. Saturate curled hair in clean engine oil and squeeze dry before replacing in strainer.

GOVERNOR

6 months or 10,000 miles—Remove both governor air filters and wash in cleaning solvent not detrimental to metal, nylon or rubber.

BRAKE VALVE

Monthly or 2000 miles—Lubricate lever roller, hinge pin and linkage with engine oil.

Lift boot away from mounting plate and put a few drops of SAE 20 engine oil between mounting plate and plunger.

SLACK ADJUSTERS

Monthly or 1000 miles—Remove grease plug (if installed) on slack adjuster, install grease fitting and lubricate with chassis lubricant.

CAMSHAFT BRACKET BUSHINGS

Lubricate monthly or every 1000 miles. Remove grease plug (if installed) on bracket, install grease fitting and lubricate with chassis lube. Avoid over lubrication because excess grease will ruin brake linings.

HYDROVAC AND AIR OVER HYDRAULIC BRAKES

The air over hydraulic (Air-Pak) and piston type Hydrovac assemblies are equipped with lubrication plugs in the closed end of the shell approximately 1″ from the bottom of the cylinder. Fill to plug level with Bendix Vacuum Cylinder Oil or Delco shock absorber fluid at 10,000 mile intervals or each six month period, especially prior to the start of cold weather.

PROPELLER SHAFT SLIP JOINTS

Propeller shaft slip joints (used on all but the light series trucks with 3-speed transmission) should be lubricated every 1000 miles with chassis lubricant.

REAR AXLES

RECOMMENDED LUBRICANTS

The following table shows the proper viscosity "Multi-Purpose" gear lubricant to be used during vehicle operation.

OUTSIDE TEMPERATURE	VISCOSITY LUBRICANT TO BE USED
BELOW 10° F	SAE 80
UP TO 100° F	SAE 90
ABOVE 100° F CONSISTENTLY	SAE 140

NOTE: The electric shift unit on the two speed axles requires SAE 10 engine oil.

LUBRICANT CHANGES

The rear axle (including the inter-axle differential) is filled with a special lubricant which should be drained at the end of 1000 miles and refilled with the correct viscosity lubricant as mentioned above.

The level should be checked every 1000 miles and the lubricant drained and refilled every 15,000 miles. If the vehicle is operated in exceptionally heavy work or at continuous high speeds, the lubricant should be changed every 10,000 miles. It may be necessary to change lubricant more often if vehicle is used off road in dusty areas.

NOTE: The electric shift unit on the two-speed rear axle should be filled to the level of the filler plug hole with SAE 10 engine oil every 10,000 miles or three months whichever comes first.

SPRING SHACKLES AND SPRING BOLTS

When so equipped the spring shackles and spring bolts are equipped with pressure lubrication fittings, and should be lubricated with lubricant recommended under "Chassis Lubrication."

On series 50 through 80 (2 and 2½ Ton) apply a generous amount of chassis lubricant between top of rear spring (each end) and cam surface of hangers every 1000 miles.

STEERING GEAR

CONVENTIONAL STEERING GEAR

The steering gear is filled at the factory with an all-season gear lubricant. Seasonal change of this lubricant is unnecessary and the housing should not be drained. Whenever required, additions should be made using "Multi-Purpose" or "Universal" steering gear lubricants.

POWER STEERING GEAR AND PUMP

Service gear box every 1000 miles in the same manner as prescribed for the standard steering gears. In addition check fluid in power steering pump reservoir—while hot—and make additions using Automatic Transmission Fluid—Type A—required to bring level to full mark on filler cap dipstick.

TRANSMISSION

AUTOMATIC

Hydra-Matic

Every 1,000 miles the fluid level should be checked and fluid added as described below when necessary. Use only "Automatic Transmission Fluid Type A" bearing an AQ-ATF-A number. This fluid is available in sealed containers at all Authorized Chevrolet Dealers and oil company service stations. A good grade of 10W engine oil may be used temporarily in emergencies but should be replaced with Automatic Transmission Fluid Type A, as soon as possible.

Checking Hydra-Matic Fluid. Check transmission fluid level with transmission at normal operating temperature. Otherwise, the engine and transmission must be warmed to operating temperature. Engine must be running while checking or adding fluid.

1. Set parking brake and move control lever into (N) position; then start engine. Run engine at idling speed until engine and transmission have reached normal operating temperature.

2. Remove all dirt or gravel from area around indicator in the engine compartment. With engine still idling, remove indicator, wipe clean, re-insert, and carefully withdraw again.

   NOTE: If Automatic Transmission Fluid Type "A" bearing an AQ-ATF-A number is not available, it is permissible to use a fluid bearing an AQ-ATF number.

   Exercise extreme care to prevent dirt from entering filler tube when checking fluid level. Add fluid (Step 3) only when level reaches the "L" mark (1 Qt. low) on the indicator.

3. With engine operating at normal idle, add sufficient Automatic transmission fluid to bring level to "F" (Full) mark on indicator.

   CAUTION: Fluid level should never be higher than "F" mark on indicator, when fluid is at operating temperature. An excessive amount of fluid will cause spinning drums to aerate fluid. Expanding fluid may then be forced out of case around indicator. Sufficient fluid may be lost to damage the transmission seriously.

4. Reinstall indicator.

Draining and Refilling the Hydra-Matic Transmission. At the 25,000 mile interval the transmission should be drained and refilled. Approximately 8½ quarts* of Automatic Transmission Fluid—Type A—are required to refill transmission after torus cover and oil pan have been drained. Drain oil immediately after operation, while fluid is still warm. Do not flush transmission after draining.

1. Turn flywheel until torus cover plug is at lowest point. Remove torus cover drain plug (fig. 94) and thoroughly drain torus cover.
2. Remove oil pan drain plug (fig. 94) and thoroughly drain oil pan.
3. When drainage is completed install oil pan drain plug. Tighten drain plug to 35-45 foot-pounds torque.

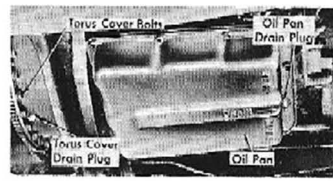


Fig. 94—Drain Plugs on Transmission (Without Cooler)

4. Coat torus cover plug with sealer (Permatex No. 3 or equivalent) and install in cover. Tighten plug to 6-7 ft. lbs. torque.
5. Remove oil indicator (see "Checking Hydra-Matic Fluid") and wipe it clean.
6. Pour six* quarts of "Automatic Transmission Fluid—Type A" into transmission. Be sure container and spout or funnel is clean.
7. Set parking brake and position control lever in "N" position and start engine. Run engine at idling speed for 3 to 5 minutes, to fill coupling.
8. With engine idling, then add sufficient fluid (approximately 2½ quarts) to bring oil level to "L" (low) mark on indicator. Continue to run engine until normal temperature is attained; then recheck fluid level to "F" (full) mark.

* Add one additional quart if equipped with transmission oil cooler.

Powerglide Transmission

"Automatic Transmission—Fluid—Type A" bearing an AQ-ATF-A number should be used in the Powerglide transmission. If the above fluid is not available, fluid bearing an AQ-ATF number may be used.

Checking Powerglide Fluid—Check oil level every 1000 miles with engine idling, parking brake set, transmission warm and control lever in "N" position. Add fluid when level reaches "Add 1 qt." mark on oil level rod located on right side of engine. Do not overfill or allow dirt to enter filler tube. **No periodic draining of transmission is needed.**

Powermatic Transmission

Every 1000 miles the fluid level should be checked and fluid added as described below when necessary. Use "Automatic Transmission Fluid—Type A," or "Hydraulic Transmission Fluid Type C." A good grade of 10W engine oil may be used temporarily in emergencies, but should be replaced with Automatic Transmission Fluid as soon as possible.

Checking Powermatic Fluid—Check transmission fluid level with transmission at normal operating temperature, otherwise the engine and transmission must be warmed to operating temperature. Engine must be running while checking or adding fluid.

1. Start engine, set parking brake and move control lever into ("3-HI") position. Run engine at 1000 rpm until engine and transmission have reached normal operating temperature.

2. Remove any dirt or gravel from area around indicator in right side of engine compartment. With engine running at 1000 rpm remove indicator from case, wipe clean, reinsert and carefully withdraw again.

CAUTION: Exercise extreme care to prevent dirt from entering filler tube when checking fluid level.

Add fluid only when level reaches L mark (1 qt. low) on the indicator.

3. With engine operating at 1000 rpm add sufficient "Automatic Transmission Fluid—Type A" or "Type C"—to bring level to full mark on indicator.

CAUTION: Fluid level should never be higher than "F" mark on indicator when fluid is at operating temperature. An excessively full transmission will result in aeration of the fluid. The expanding fluid may then be forced out of the filler tube. Sufficient fluid may be lost to seriously damage the transmission.

4. Reinstall indicator and turn the cap ¼ turn to lock.

Draining and Refilling the Powermatic Transmission—Drain the transmission and replace the filter after the first 2000 miles of operation. At the 10,000 mile interval (or 6 mos. whichever occurs first) under operating conditions for off highway or urban operation, the transmission should be drained and refilled

and the filter should be replaced. Changing fluid and replacing filter may be done at 25,000 mile intervals for favorable highway operation. Approximately 9 qts. of fluid are required to refill the transmission after the pan has been drained. Drain immediately after operation while fluid is still warm. Do not flush transmission after draining.

1. Loosen filter cover and allow to drain thoroughly. Do not completely remove cover with transmission full or fluid will gush out in considerable quantity.
2. When drainage is complete, remove cover and filter and install new filter. Tighten filter cover to 8-10 ft. lbs. torque.
3. Pour eight quarts of Automatic Transmission Fluid into transmission. Be sure container and spout or funnel is clean.
4. Set parking brake. Set control lever in (N) position and start engine. Move control lever to (3-Hi) position.
5. To complete filling: with engine operating at 1000 rpm, add sufficient fluid (approximately 1 qt.) to bring level to "L" (low) mark on indicator. With service brake set, shift transmission through all ranges. Continue to run engine until normal temperature is attained; then recheck fluid level and add sufficient fluid to bring level to full mark on indicator.

NOTE: The oil and oil filter should be changed after 500 miles of operation after a transmission overhaul.

SYNCHROMESH (incl. aux. 3-speed and 4-wheel drive transfer case)

The lubricant level in the housing should be checked periodically (every 1000 miles or oftener under severe operating conditions) and with unit at operating temperatures, lubricant should be level with bottom of filler plug hole. The lubricant should be drained at 10,000 mile intervals or oftener under severe operating conditions.

Either SAE 90 "Multi-Purpose" gear lubricant or SAE 90 Straight Mineral Oil may be used. It is recommended that any additions required to bring up the lubricant level be made using the same type of lubricant as in the housing.

TRANSMISSION CONTROLS

The steering column manual shift mechanism on ½ Ton and ¾ Ton models equipped with 3 speed transmission is factory lubricated and should not require periodic lubrication. However, should the shifting effort become noticeably greater, lubricate all linkage points with engine oil.

The brake retarder linkage (Powermatic), and throttle valve linkage for both Hydra-Matic and Powermatic transmissions should be lubricated periodically. Contact points between rods, idlers, bell cranks and supports should be lubricated with SAE 10 engine oil. A lubrication fitting is provided in the Auxiliary 3-speed shift tower. Lubricate every 1000 miles with chassis lubricant.

UNIVERSAL JOINTS

All universal joints are the needle bearing type equipped with lubrication fittings. These should be lubricated every 1000 miles with a good grade wheel bearing grease, or if not available, a "summer" grade (heavy) chassis lubricant.

WHEEL BEARINGS

FRONT

When the front wheels are equipped with ball bearings (10-40 series) they should be packed and readjusted with a high-melting point front wheel bearing lubricant every 30,000 miles.

When the front wheels are equipped with tapered roller bearings (50-80 series) they should be packed with a soft smooth lubricant every 30,000 miles.

CAUTION: "Long fibre" or "Viscous" type of lubricants should not be used on roller bearing front wheels.

NOTE: Do not mix wheel bearing lubricants. Be certain to clean thoroughly bearings and hubs of all old lubricant before repacking.

Due to the weight of the tire and wheel assembly it is recommended that they be removed from hub before lubricating bearings to prevent damage to oil seal. Then remove the front wheel hub to lubricate the bearings. The bearings should be thoroughly cleaned before repacking with lubricant. Pack the hub center cavity between the inner and outer bearing assemblies, to match the I.D.'s of both inner and outer bearing cups.

In mounting the front hubs, great care must be taken not to damage seals and to properly adjust bearings, (see "Wheel Bearing Adjustment," in the "Maintenance" section of this booklet).

REAR

The rear wheel bearings receive their lubrication from the rear axle. When installing bearings which have been cleaned, repack with a smooth type grease.

½ and ¾ TON CONVENTIONAL MODELS

No.	Lubrication Points	Lubrication Period	Type of Lubrication	Quantity	Remarks
1	Lower Control Arms	1000 Miles	Chassis Lubricant	4 Places as Required	
2	Upper Control Arms	1000 Miles	Chassis Lubricant	4 Places as Required	
3	Upr. & Lwr. Control Arm Ball Joints	1000 Miles	Chassis Lubricant	4 Places as Required	
4	Relay Rod	1000 Miles	Chassis Lubricant	2 Places as Required	
5	Tie Rod Ends	1000 Miles	Chassis Lubricant	4 Places as Required	
6	Wheel Bearings	30,000 Miles	Whl. Brg. Lubricant	2 Places as Required	Pack Center of Hub. See "Lubrication" Sec.
7	Steering Gear	1000 Miles	Strg. Gear Lubricant	As Required	Check only—Do not drain
8	Generator	1000 Miles	Engine Oil	2 Places as Required	Fill to Top of Oilers
9	Air Cleaner	As Required	Engine Oil S.A.E. 50	As Required	See "Lubrication" Sec.
10	Distributor (L-6) Lube. Cup Brk. Lever Pivot Cam	 1000 Miles 5000 Miles 5000 Miles	Chassis Lubricant Engine Oil Delco B.B.&C.	As Required 1 Drop V. Small Amount	½ turn of Cup. Use Delco Ball Bearing & Cam Lubricant on Distributor Cam
11	Distributor (V-8) Hinge Cap Oiler, Breaker Lever Gov. Air Cleaner	 5000 Miles 5000 Miles 10,000 Miles	 Engine Oil Engine Oil	 As Required 1 Drop	 Fill to Top of Oiler Replace Air Cleaner
12	Main Cylinder	1000 Miles	Delco Super No. 11	As Required	Level should be ½" below filler
13	Transmission Synchromesh Automatic	 1000 Miles 1000 Miles	Multi-Purpose AQ-ATF-A	 As Required As Required	Keep even with filler plug Check—See "Lube." Section
14	Throttle Bell Crank (L-6)	1000 Miles	Engine Oil	As Required	
15	Carburetor Linkage (V-8)	1000 Miles	Engine Oil	As Required	
16	Brake and Clutch Pedal Springs	1000 Miles	Engine Oil	As Required	
17	Universal Joints	1000 Miles	Chassis Lubricant	2 Places as Required	
18	Propeller Shaft Slip Joint	1000 Miles	Chassis Lubricant	As Required	
19	Rear Axle	1000 Miles 1000 Miles 15,000 Miles	Multi-Purpose	See "Specifications"	Drain first 1000 miles. Check every 1000 miles Drain—See "Lubrication"

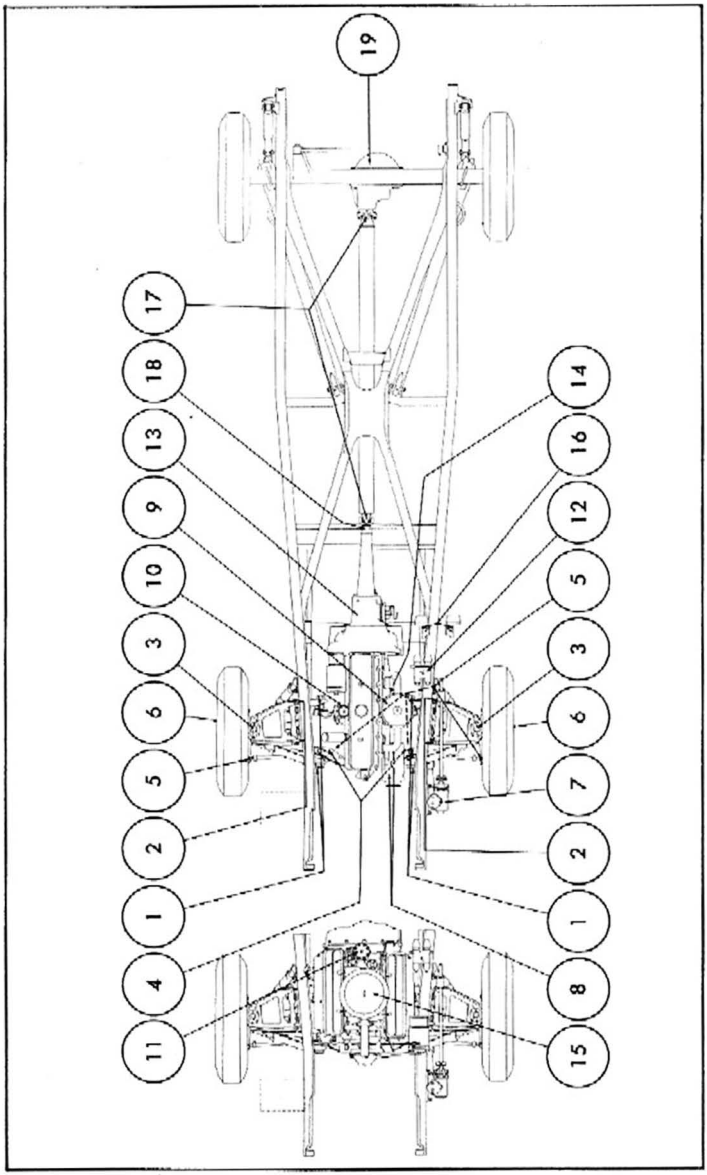


Fig. 95—½ and ¾ Ton Conventional Models

¾ and 1 TON FORWARD CONTROL MODELS

No.	Lubrication Points	Lubrication Period	Type of Lubrication	Quantity	Remarks
1	Front Spring Shackles	1000 Miles	Chassis Lubricant	4 Places as Required	2 each side
2	Generator	1000 Miles	Engine Oil	2 Places as Required	Fill to Top of Oilers
3	King Pins	1000 Miles	Chassis Lubricant	2 Places as Required	
4	Wheel Bearings	30,000 Miles	Whl. Brg. Lubricant	2 Places as Required	Pack Center of Hub. See "Lubrication" Sec.
5	Tie Rod	1000 Miles	Chassis Lubricant	2 Places as Required	1 each side
6	Steering Connecting Rod	1000 Miles	Chassis Lubricant	2 Places as Required	
7	Steering Gear	1000 Miles	Strg. Gear Lubricant	As Required	Check—do not drain
8	Distributor Lub. Cup Brk. Lever Pivot Cam	 1000 Miles 5000 Miles 5000 Miles	Chassis Lubricant Engine Oil Delco B.B.&C.	As Required 1 Drop V. Small Amount	½ turn of cup. Use Delco Ball Bearing & Cam Lubricant on Distributor Cam
9	Front Spring Bolt	1000 Miles	Chassis Lubricant	2 Places as Required	1 each side
10	Air Cleaner	As Required	Engine Oil S.A.E. 50	As Required	See "Lubrication" Section
11	Throttle Bell Crank	1000 Miles	Engine Oil	As Required	
12	Brake & Clutch Pedals	1000 Miles	Chassis Lubricant	As Required	See "Lubrication" Section
13	Transmission Synchromesh Automatic	 1000 Miles 1000 Miles 25,000 Miles	Multi-Purpose AQ ATF-A AQ-ATF A	 As Required As Required 9½ qts.	Keep even w/filler plug See "Lubrication" Sec. Checking Draining—See "Lube".
14	Universal Joints	1000 Miles	Chassis Lubricant	3 Places as Required	
15	Rear Spring Bolt	1000 Miles	Chassis Lubricant	2 Places as Required	1 each side
16	Rear Axle	1000 Miles 1000 Miles 15,000 Miles	Multi-Purpose	See Specifications	Drain first 1000 miles Check every 1000 miles Drain every 15,000 miles See "Lubrication" Sec.
17	Rear Spring Shackle	1000 Miles	Chassis Lubricant	4 Places as Required	2 each side
18	Propeller Shaft Slip Joint	1000 Miles	Chassis Lubricant	1 Place as Required	

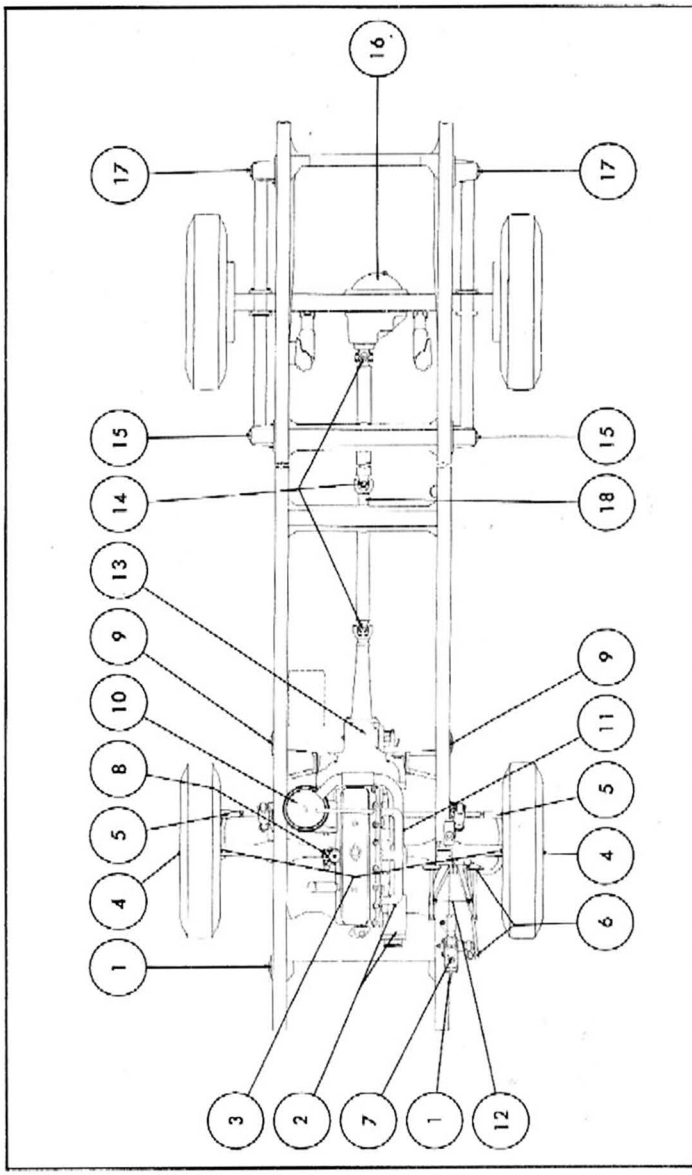
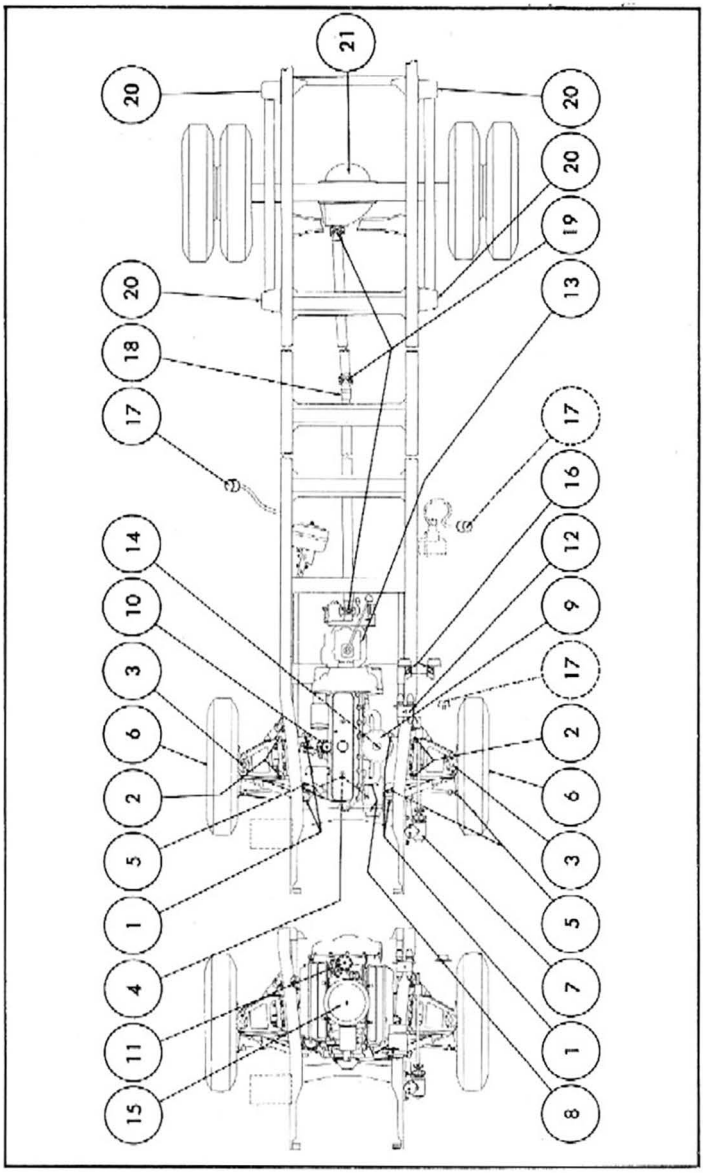


Fig. 96—¾ and 1 Ton Forward Control Models

1 and 1½ TON CONVENTIONAL MODELS

No.	Lubrication Points	Lubrication Period	Type of Lubrication	Quantity	Remarks
1	Lower Control Arms	1000 Miles	Chassis Lubricant	4 Places as Required	
2	Upper Control Arms	1000 Miles	Chassis Lubricant	4 Places as Required	
3	Upr. & Lwr. Control Arm Ball Joints	1000 Miles	Chassis Lubricant	4 Places as Required	
4	Relay Rod	1000 Miles	Chassis Lubricant	2 Places as Required	
5	Tie Rod Ends	1000 Miles	Chassis Lubricant	4 Places as Required	
6	Wheel Bearings	30,000 Miles	Whl. Brg. Lubricant	2 Places as Required	Pack center of hub. See "Lubrication" Section
7	Steering Gear	1000 Miles	Strg. Gear Lubricant	As Required	Check only — do not drain
8	Generator	1000 Miles	Engine Oil	2 Places as Required	Fill to Top of Oilers
9	Air Cleaner	As Required	Engine Oil S.A.E. 50	As Required	See "Lubrication" Section
10	Distributor (L-6) Lube. Cup Brk. Lever Pivot Cam	 1000 Miles 5000 Miles 5000 Miles	 Chassis Lubricant Engine Oil Delco B.B.&C.	 As Required 1 Drop V. Small Amount	½ turn of Cup. Use Ball Bearing & Cam Lubricant on Distributor Cam
11	Distributor (V-8) Hinge Cap Oiler Breaker Lever Gov. Air Cleaner	 5000 Miles 5000 Miles 10,000 Miles	 Engine Oil Engine Oil	 As Required 1 Drop	 Fill to Top of Oiler Replace Air Cleaner
12	Main Cylinder	1000 Miles	Delco Super No. 11	As Required	Level should be ½" below filler
13	Transmission Synchromesh Automatic	 1000 Miles 1000 Miles 10,000 Miles	 Multi-Purpose AQ-ATF-A AQ-ATF-A	 As Required As Required 9 qts. Approx.	Keep even with filler plug Check Drain—See "Lub." Section
14	Throttle Bell Crank (L-6)	1000 Miles	Engine Oil	As Required	
15	Carburetor Linkage (V-8)	1000 Miles	Engine Oil	As Required	
16	Brake and Clutch Pedal Springs	1000 Miles	Engine Oil	As Required	
17	Power Brake Air Cleaner	Semi-Annually			Clean-Dotted line indicates optional location
18	Propeller Shaft Slip Joint	1000 Miles	Chassis Lubricant	1 Place as Required	
19	Universal Joints	1000 Miles	Chassis Lubricant	3 Places as Required	
20	Spring Hanger	1000 Miles	Chassis Lubricant	6 Places as Required	
21	Rear Axle	1000 Miles 1000 Miles 15,000 Miles	Multi-Purpose	See Specifications	Drain first 1000 miles Check every 1000 miles Drain—See "Lubrication"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2 TON CONVENTIONAL, L.C.F. and SCHOOL BUS

No.	Lubrication Points	Lubrication Period	Type of Lubrication	Quantity	Remarks
1	Lower Control Arms	1000 Miles	Chassis Lubricant	4 Places as Required	
2	Upper Control Arm Supports	1000 Miles	Chassis Lubricant	4 Places as Required	
3	Upr. & Lwr. Control Arm Ball Joints	1000 Miles	Chassis Lubricant	4 Places as Required	
4	Steering Idler Support	1000 Miles	Chassis Lubricant	1 Place as Required	
5	Relay Rod	1000 Miles	Chassis Lubricant	2 Places as Required	
6	Tie Rod Ends	1000 Miles	Chassis Lubricant	4 Places as Required	
7	Wheel Bearings	30,000 Miles	Whl. Brg. Lubricant	2 Places as Required	Pack center of Hub. See "Lubrication" Section
8	Steering Gear	1000 Miles	Strg. Gear Lubricant	As Required	Check—do not drain
9	Generator	1000 Miles	Engine Oil	2 Places as Required	Fill to Top of Oiler
10	Air Cleaner	As Required	Engine Oil S.A.E. 50	As Required	See "Lubrication" Section
11	Distributor (L-6) Lube. Cup Brk. Lever Pivot Cam	 1000 Miles 5000 Miles 5000 Miles	Chassis Lubricant Engine Oil Delco B.B.&C.	 As Required 1 Drop V. Small Amount	½ turn of cup. Use Delco Ball Bearing & Cam Lubricant on Distributor Cam
12	Distributor (V-8) Hinge Cap Oiler Breaker Lever Gov. Air Cleaner	 5000 Miles 5000 Miles 10,000 Miles	 Engine Oil Engine Oil	 As Required 1 Drop	 Fill to Top of Oiler Replace Air Cleaner
13	Main Cylinder	1000 Miles	Delco Super No. 11	As Required	Level should be ½" below filler
14	Transmission Synchromesh Automatic	 1000 Miles 1000 Miles 10,000 Miles	Multi-Purpose AQ-ATF-A AQ-ATF-A	 As Required As Required 9 qts. Approx.	Keep even with filler plug. See "Lube." Sec. Checking Draining—See "Lube."
15	Throttle Bell Crank (L-6)	1000 Miles	Engine Oil	As Required	
16	Carburetor Linkage (V-8)	1000 Miles	Engine Oil	As Required	
17	Brake and Clutch Pedal Springs	1000 Miles	Engine Oil	As Required	
18	Power Brake Air Cleaner	Semi-Annually			Clean
19	Propeller Shaft Slip Joints	1000 Miles	Chassis Lubricant	2 Places as Required	
20	Universal Joints	1000 Miles	Chassis Lubricant	4 Places as Required	
21	Spring Hangers	1000 Miles	Chassis Lubricant	6 Places as Required	2 Fittings and 4 Cam Surfaces
22	Rear Axle	1000 Miles 1000 Miles 15,000 Miles	Multi-Purpose	See Specifications	Drain first 1000 miles Check every 1000 miles Drain—See "Lube." Sec.

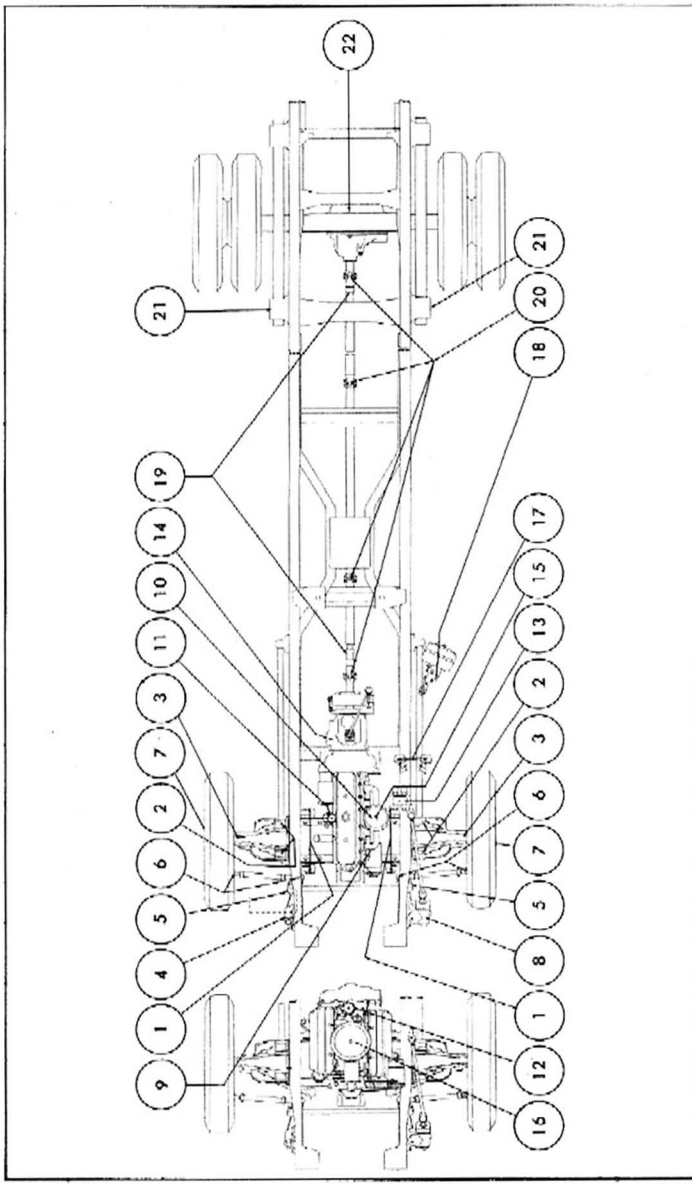


Fig. 98—2 Ton Conventional, L.C.F. and School Bus Models

2½ TON CONVENTIONAL, L.C.F. and SCHOOL BUS (H.D.)

No.	Lubrication Points	Lubrication Period	Type of Lubrication	Quantity	Remarks
1	Lower Control Arms	1000 Miles	Chassis Lubricant	4 Places as Required	
2	Upper Control Arm Supports	1000 Miles	Chassis Lubricant	4 Places as Required	
3	Upper and Lower Control Arm Ball Joints	1000 Miles	Chassis Lubricant	4 Places as Required	
4	Steering Idler Support	1000 Miles	Chassis Lubricant	1 Place as Required	
5	Relay Rod	1000 Miles	Chassis Lubricant	2 Places as Required	
6	Tie Rod Ends	1000 Miles	Chassis Lubricant	4 Places as Required	
7	Wheel Bearings	30,000 Miles	Whl. Brg. Lubricant	2 Places as Required	Pack Center of Hub—See Lubrication Section
8	Steering Gear	1000 Miles	Strg. Gear Lubricant	1 Place as Required	Check only—do not drain
9	Generator	1000 Miles	Engine Oil	2 Places as Required	Fill to top of Oiler
10	Air Cleaner	As Required	Engine Oil S.A.E. 50	As Required	See "Lubrication" Section
11	Distributor— Hinge Cap Oiler, Breaker Lever Pivot, Governor Air Cleaner	1000 Miles 5000 Miles 10,000 Miles	Engine Oil Engine Oil S.A.E. 10	As Required 1 Drop	Fill to Top of Oiler Replace Air Cleaner
12	Main Cylinder	1000 Miles	Delco Super No. 11	As Required	Level should be ½" below filler
13	Transmission, Synchromesh Automatic	 1000 Miles 1000 Miles 10,000 Miles	Multi-Purpose AQ-ATF-A AQ-ATF-A	 As Required As Required 9 qts. Approx.	Keep even with Filler Plug. See "Lube." Sec. Checking Draining—See "Lube."
14	Carburetor Linkage	1000 Miles	Engine Oil	As Required	
15	Brake and Clutch Pedal Springs	1000 Miles	Engine Oil	As Required	
16	Universal Joints	1000 Miles	Whl. Brg. Lubricant	4 Places as Required	See "Lubrication" Section
17	Power Brake Air Cleaner	Semi-Annually			Clean—Dotted line indicates Opt. Location
18	Propeller Shaft Slip Joint	1000 Miles	Chassis Lubricant	1 Place as Required	
19	Spring Hanger	1000 Miles	Chassis Lubricant	6 Places as Required	2 fittings and 4 cam surfaces
20	Rear Axle	1000 Miles 1000 Miles 15,000 Miles	Multi-Purpose	See Specifications	Drain first 1000— Check every 1000 Drain — See "Lubrication

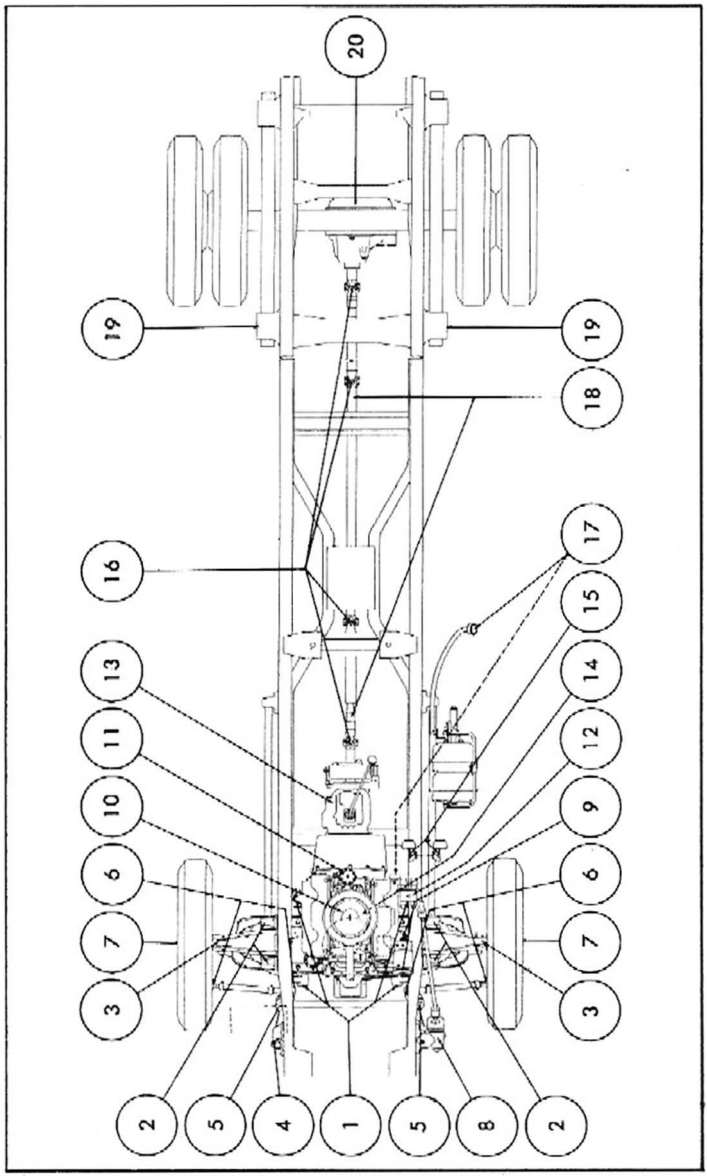


Fig. 99—2½ Ton Conventional, L.C.F. and School Bus Models (H.D.)

TANDEM AXLE MODELS

No.	Lubrication Points	Lubrication Period	Type of Lubrication	Quantity	Remarks
1	Lower Control Arms	1000 Miles	Chassis Lubricant	4 Places as Required	
2	Upper Control Arm Supports	1000 Miles	Chassis Lubricant	4 Places as Required	
3	Upper and Lower Control Arm Ball Joints	1000 Miles	Chassis Lubricant	4 Places as Required	
4	Steering Idler Support	1000 Miles	Chassis Lubricant	1 Place as Required	
5	Relay Rod	1000 Miles	Chassis Lubricant	2 Places as Required	
6	Tie Rod Ends	1000 Miles	Chassis Lubricant	4 Places as Required	
7	Wheel Bearings	30,000 Miles	Whl. Brg. Lubricant	2 Places as Required	Pack Center of Hub. See "Lubrication" Section
8	Power Cylinder	1000 Miles	Chassis Lubricant	1 Place as Required	
9	Generator	1000 Miles	Engine Oil	2 Places as Required	Fill to top of Oilers
10	Steering gear	1000 Miles	Strg. Gear Lubricant	1 Place as Required	Check only — do not drain
11	Air Cleaner	As Required	Engine Oil S.A.E. 50	As Required	See "Lubrication" Section
12	Distributor Hinge Cap Oiler, Breaker Lever Pivot, Governor Air Cleaner	1000 Miles 5000 Miles 10,000 Miles	Engine Oil Engine Oil S.A.E. 10	As Required 1 Drop	Fill to Top of Oiler Replace Air Cleaner
13	Main Cylinder	1000 Miles	Delco Super No. 11	As Required	Level should be ½" below filler
14	Transmission, Synchromesh Automatic	 1000 Miles 1000 Miles 10,000 Miles	Multi-Purpose AQ-ATF-A AQ-ATF-A	 As Required As Required 9 qts. Approx.	Keep even with filler plug. See "Lube." Sec. Checking Draining—See "Lube."
15	Carburetor Linkage	1000 Miles	Engine Oil	As Required	
16	Brake and Clutch Pedal Springs	1000 Miles	Engine Oil	As Required	
17	Universal Joints	1000 Miles	Chassis Lubricant	3-6 Places as Required	See "Lubrication" Section
18	Power Brake Air Cleaner	Semi-Annually			Clean
19	Propeller Shaft Slip Joints	1000 Miles	Chassis Lubricant	1-3 Places as Required	Dotted line indicates optional locations
20	Spring Hanger	1000 Miles	Chassis Lubricant	4 Places as Required	
21	Rear Axle	1000 Miles	Multi-Purpose	See Specifications	Drain first 1000 miles Check every 1000 miles See "Lubrication" Sec.

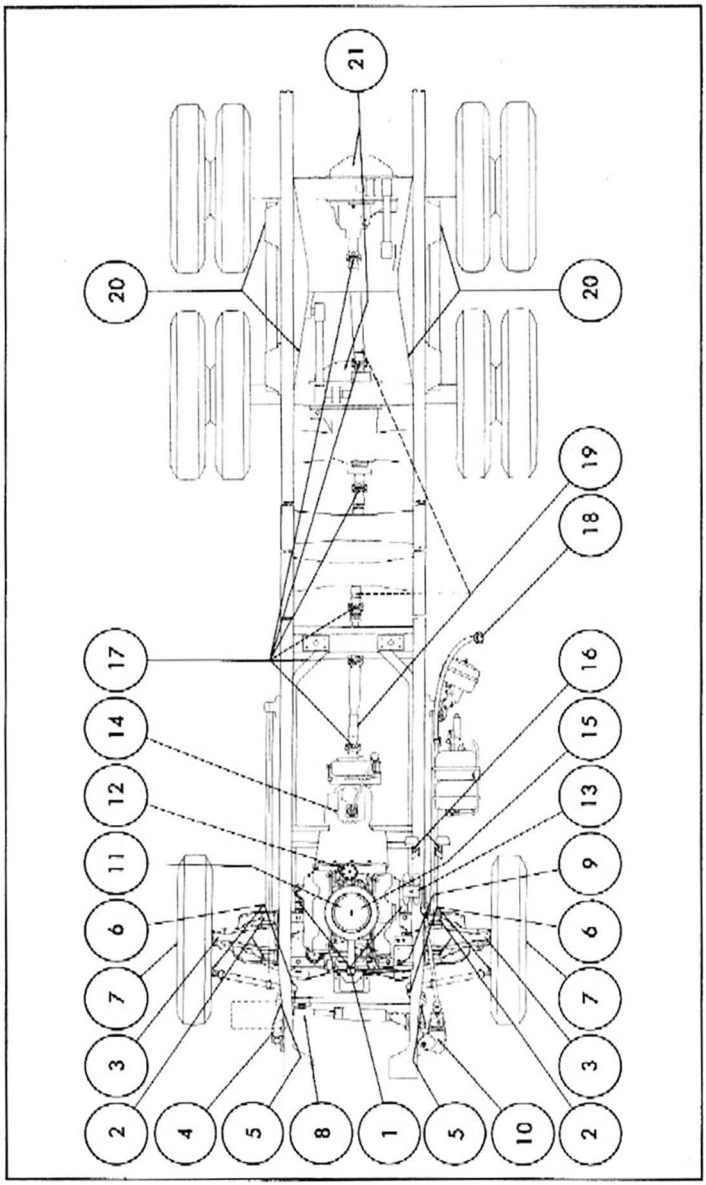


Fig. 100—Tandem Axle Models

FOUR WHEEL DRIVE MODELS

No.	Lubrication Points	Lubrication Period	Type of Lubrication	Quantity	Remarks
1	Air vents	1000 Miles			Clean in solvent, dip in engine oil
2	Transfer Case	1000 Miles 10,000 Miles	Multi-Purpose	See Specifications	Check Drain and Refill
3	Front and Rear Axle	1000 Miles 1000 Miles 10,000 Miles	Multi-Purpose	See Specifications	Drain first 1000 miles Check every 1000 miles Drain every 10,000 miles
4	Steering Knuckles	1000 Miles	Multi-purpose	2 Places as Required	Remove pipe plugs from ball ends of hsg. and check lubricant.
5	Drag Link	1000 Miles	Chassis Lubricant	2 Places as Required	
6	Tie Rod Ends	1000 Miles	Chassis Lubricant	2 Places as Required	
7	Propeller Shaft Slip Joints	1000 Miles	Chassis Lubricant	3 Places as Required	
8	Universal Joints	1000 Miles	Chassis Lubricant	6 Places as Required	See "Lubrication" Section
9	Control Linkage Points	1000 Miles	Engine Oil	As Required	Brush or Spray to Apply
10	Wheel Bearings	see item 4			item included in 4
11	Steering Gear	1000 Miles	Strg. Gear Lubricant	As Required	Check—Do not drain
12	Generator	1000 Miles	Engine Oil	2 Places as Required	Fill to Top of Oiler
13	Air Cleaner	As Required	Engine Oil S.A.E. 50	As Required	See "Lubrication" Section
14	Distributor (L-6) Lube Cup Brk. Lever Pivot Cam	 1000 Miles 5000 Miles 5000 Miles	Chassis Lubricant Engine Oil Delco B.B.&C.	As Required 1 Drop V. Small Amount	½ turn of Cup. Use Delco Ball Bearing & Cam Lubricant on Distributor Cam
15	Distributor (V-8) Hinge Cap Oiler Breaker Lever Gov. Air Cleaner	 5000 Miles 5000 Miles 10,000 Miles	 Engine Oil Engine Oil	 As Required 1 Drop	 Fill to Top of Oiler Replace Air Cleaner
16	Main Cylinder	1000 Miles	Delco Super No. 11	As Required	Level should be ½" below filler
17	Throttle Bell Crank (L-6)	1000 Miles	Engine Oil	As Required	
18	Carburetor Linkage (V-8)	1000 Miles	Engine Oil	As Required	
19	Brake and Clutch Pedal Springs	1000 Miles	Engine Oil	As Required	
20	Transmission Synchromesh Automatic	 1000 Miles 1000 Miles 10,000 Miles	Multi-Purpose AQ ATF-A AQ-ATF-A	 As Required As Required 9 qts. Approx.	Keep even with Filler Plug. See "Lube" Sec. Checking Draining—See "Lube."

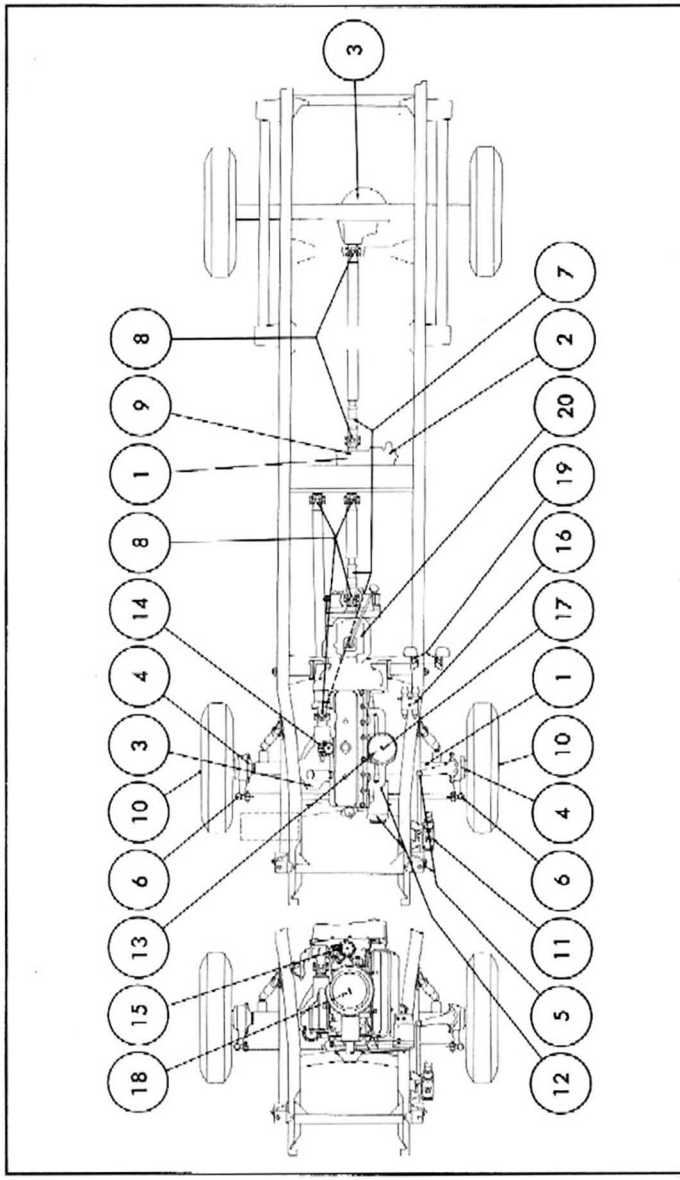


Fig. 101—Four Wheel Drive Models

TECHNICAL DATA

Vehicle Serial Number—Stamped on plate located on left body hinge pillar on most models or on a plate located on left hand cowl inner panel.

Engine Number—Stamped on boss on right front side of 283 and 348 cu. in. V-8 engine cylinder block, or a machined surface on right side to the rear of ignition distributor on 6-cylinder block.

UNIT CAPACITY CHARTS

ENGINE

Crankcase

Thriftmaster .....5 qt.	Workmaster .....6 qt.
Jobmaster .....5 qt.	Oil Filter (Jobmaster) .....2 qt.
Trademaster .....4 qt.	Oil Filter (V-8) .....1 qt.
Taskmaster .....5 qt.	Thriftmaster (opt.) .....1 qt.

Air Cleaner

Thriftmaster and Trademaster .....1 pt.	Others .....1 qt.

BRAKES

.....1 pt.

TRANSMISSION

3-Speed .....2 pt.	Hydra-Matic (Total) .....10 qt.
Heavy-Duty 3-Speed .....2¾ pt.	*(Refill) .....9½ qt.
4-Speed .....6¼ pt.	Powermatic (Total Dry) ...17 qt.
5-Speed (New Process, Clark) .....9½ pt.	*(Refill) .....13 qt.
5-Speed (Spicer) .....12 pt.	Powerglide (Total Dry) ....10 qt.
Auxiliary (Tandem Option) .4 pt.	*(Refill) .....4½ qt.

*Add 1 qt. if equipped with transmission oil cooler.

REAR AXLE

½ Ton .....4½ pt.	2-Speed .....16 pt.
¾ and 1 Ton .....6½ pt.	Heavy-Duty 2-Speed .....18 pt.
1½ Ton .....14 pt.	Tandem Forward Axle .....22 pt. (Including Inter-axle differential and Power Divider)
2 Ton Regular .....19½ pt.	
2½ Ton Regular .....19 pt.	

FOUR WHEEL DRIVE

Front Axle .....3¾ pt.	Transfer Case .....4 pt.
Knuckle End .....½ pt.	Power Take-off .....1 pt.

FUEL TANK DATA

Series and Models	Tank Location	Std. or RPO	Capacity (Gallons)
10 through 60 series cabs	Back of seat, in cab	Std. RPO	17½ 20½
70 and 80 series cab models	Back of seat, in cab	Std.	20½
C10 and C20 series except cab models	Inside of frame, behind rear axle	Std.	20
K10 and K20 series except cab models	Inside of frame, behind rear axle	Std.	17
30 and 40 series except cab models	Outside left hand side rail	Std.	20
50 and 60 series except cab models	Outside right hand side rail	Std.	18
P23, P33 forward control models	Outside right hand side rail	Std.	15½
P25, P26, P35 forward controls	Outside right hand side rail	Std. RPO	18 30
School bus models	Outside right hand side rail	Std.	30

COOLING SYSTEM CHART

Series	Transmission	Engine	Area Sq. In.	System Capacity+	Pressure Cap Capacity*
10 & 20, 30	Standard	235 cu. in. 283 cu. in.	426.13	17.25	7 lb.
10 & 20	Powerglide	235 cu. in. 283 cu. in.	469.2	17.75 18.25	
40	Standard	235 cu. in. 283 cu. in.	470.35	17.75 18.25	
P20-30	Standard	235 cu. in.	426.13	17.00	
50	4-Speed	235 cu. in. 283 cu. in.	582.92	17.25 18.25	
60	4-Speed	261 cu. in. 283 cu. in.	582.9	17.25 18.25	7 lb.
	Powermatic	261 cu. in.	581.2	21.25	
		283 cu. in.		21.75	9 lb.
70-80*	5-Speed	348 cu. in.	684	29.75	
70-80	Powermatic	348 cu. in.	686	30.75	
M-70	All	348 cu. in.	686	30.75	9 lb.

*70-80 Series with LPO power take-off uses same radiator as 70-80 Powermatic.
+Add .877 quarts of water to models equipped with a heater.

HEAVY DUTY COOLING SYSTEMS

Series	Transmission	Engine	Area Sq. In.	System Capacity+	Pressure Cap Capacity
10 & 20	Standard	235 cu. in. 283 cu. in.	469.17	17.75 18.25	7 lb.
30 & 40	All	235 cu. in. 283 cu. in.	469.17	17.75 18.25	
50	All	235 cu. in. 283 cu. in.	582.9	17.75 18.75	
60	Standard	261 cu. in. 283 cu. in.	582.9	17.75 18.75	
70	Standard	348 cu. in. 2 Bbl.	686	30.75	9 lb.
80	Standard	348 cu. in. 4 Bbl.	686		

+Add .877 quarts of water to models equipped with a heater.

THERMOSTAT DATA—FACTORY PRODUCTION

Engine	Transmission	Type	Model Number	Starts to Open	Fully Opened	Mean Opening
235 cu. in. Thriftmaster	3-Speed Conventional 3-Speed Heavy Duty 4-Speed Powerglide	Poppet Valve	T180	157°F-163°F	182°F	160°F
235 cu. in. Thriftmaster Special	3-Speed Heavy Duty 4-Speed Hydramatic					
283 cu. in. Trademaster	3-Speed Conventional 3-Speed Heavy Duty 4-Speed Powerglide					
261 cu. in. Jobmaster	4-Speed 5-Speed New Process	Pellet Bypass	DV50	157°F-162°F	182°F	160°F
283 cu. in. Taskmaster	4-Speed 5-Speed New Process					
348 cu. in. Workmaster Special	5-Speed Clark (close ratio)					
348 cu. in. Workmaster	5-Speed Spicer 5-Speed Spicer (close ratio)*					

*Except M70—Model Tandems.

6-CYLINDER 235-261 CUBIC INCH ENGINE DATA

	C-10-C20-C30-C40-C50 S50-L50-K10-K20	C60-S60-L60-T60
Engine	**Thriftmaster**	**Jobmaster**
Piston displacement (cu. in.)	235.5	261
Bore and stroke	3.56 x 3.938	3.750 x 3.938
Type	Valve-in-head	
Compression ratio	8.25:1	8.0:1
Taxable (SAE horsepower)	30.42 (AMA)	33.75 (AMA)
Idling speed (RPM)	Manual trans. 475 in neutral; Auto. trans. 450 in drive	
Firing order	1-5-3-6-2-4	

ENGINE PERFORMANCE 235-261 CUBIC INCH ENGINES

	C10-C20-C30-C40-C50-S50-L50		P20-P30	C60-S60-L60-T60
Engine Name	**Thriftmasters**			
	Production	Economy Option*	Special	Jobmaster
Horsepower	135 @ 4000 rpm	110 @ 3200 rpm	135 @ 4000 rpm	150 @ 4000 rpm
Torque (ft. lbs.)	217 @ 2000 rpm	210 @ 1600 rpm	217 @ 2000 rpm	235 @ 2000 rpm

*Available on 14-15 series only.

8-CYLINDER 283-348 CUBIC INCH ENGINE DATA

	K10-20 C10-20-30-40 C50-S50-L50*	C60-S60-L60 T60	C70-S70-L70 T70	C80-L80-T80 M70
Engine Name	**Trademaster**	**Taskmaster**	**Workmaster Special**	**Workmaster**
Piston displacement (cu. in.)	283		348	
Bore and stroke	3.875 x 3.00		4.125 x 3.25	
Type	Valve-in-head			
Compression ratio	8.5:1	8.0:1	7.75:1	
Taxable horsepower (SAE)	48.00		54.50	
Idling speed (RPM)	Manual shift 475; Auto. trans. 475		450-475 RPM	
Firing order	1-8-4-3-6-5-7-2			

ENGINE PERFORMANCE 283-348 CUBIC INCH ENGINES

	K10-20 C10-20-30-40 C50-S50-L50	C60-S60-L60 T60	C70-S70-L70 T70	C80-L80-T80 M70
Engine Name	**Trademaster**	**Taskmaster**	**Workmaster Special**	**Workmaster**
Horsepower	160 @ 4200 rpm		185 @ 4000 rpm	230 @ 4400 rpm
Torque (ft. lbs.)	270 @ 2000 rpm		315 @ 2200 rpm	335 @ 2800 rpm

*RPO equipment only—not available on Forward Control Models

TRANSMISSION RATIOS

Transmission	Reverse	First (low)	Second	Third	Fourth	Fifth	Sixth
Three-Speed	2.94:1	2.94:1	1.68:1	Direct	—	—	—
H.D. 3-Speed	3.76:1	3.17:1	1.75:1	Direct	—	—	—
4-Speed	6.78:1	7.06:1	3.58:1	1.71:1	Direct	—	—
N.P. 5-Speed	7.85:1	7.41:1	4.05:1	2.40:1	1.48:1	Direct	—
Spicer 5-Speed	7.44:1	7.55:1	4.17:1	2.45:1	1.45:1	Direct	—
Close Ratio	5.90:1	5.99:1	3.30:1	1.94:1	1.15:1	Direct	—
Clark 5-Speed	7.51:1	7.58:1	4.38:1	2.40:1	1.48:1	Direct	—
Close Ratio	6.00:1	6.06:1	3.50:1	1.80:1	1.18:1	Direct	—
Hydra-Matic	6.11:1	4.71:1	3.03:1	1.56:1	Direct	—	—
Powermatic	6.04:1	5.29:1	3.81:1	2.69:1	1.94:1	1.39:1	Direct
Powerglide	Drive	2.10:1*	1:1**				
	Low	3.82:1	1.82:1				
	Reverse	3.82:1	1.82:1				

*Maximum Converter Ratio

**With 1:1 Converter Ratio

LAMP BULB DATA

Used in	Quantity	Trade #	Power
Dome lamp	1	211	15CP
Parking lights	2	67	4CP
Oil pressure indicator lamp[1]	1	57	2CP
Generator indicator lamp[1]	1	57	2CP
Instrument cluster lamps[2]	4	57	2CP
Headlamp beam indicator lamp	1	53	1CP
Lamp assembly-tail & stop lamp[3]	1	1034	4CP 32CP
License light	1	67	4CP
Directional signal (front park lamps) (acc. RH tail lamp)	3	1034	32CP
Ignition switch lamp[2]	1	53	1CP
Overspeed warning light[4]	1	67	4CP
Head-Lamps #1 unit	2	4001	37.5W
Head-Lamps #2 unit	2	4002[7]	50W
Head-Lamps Upper beam	2	5400	50W
Head-Lamps Lower beam			40W
Differential lock-out warning lamp[6]	1	57	2CP
Cigarette lighter lamp	1	53	1CP
Glove box lamp	1	57	2CP

FUSE CHART

Device or circuit protected	Type fuse & amperes	Location
Back-up lamp	AGC-10	Fuse Block
Cool Pak	SFE-20	Fuse Block
Flasher and Traffic hazard lamp	Flasher	Fuse Block
Dome Lamp	AGC-15	Fuse Block
Heater and defroster (deluxe)	AGC-15	Fuse Block
Heater and defroster (recirculating)	AGC-10	Fuse Block
Instrument lamps	AGC-3	Fuse Block
Parking brake alarm	AGC-10	Fuse Block
Radio	AGC-4	Fuse Block
Spot lamp	AGC-15[8]	Fuse Block
License lamp	AGC-15[8]	Fuse Block
Stop lamp	AGC-15[8]	Fuse Block
Tail lamp	AGC-15[8]	Fuse Block
Underhood lamp	SFE-9	Fuse Block

[1]On 10-60 instrument clusters only

[2]3 lamps used on instrument cluster and ignition switch lamp on P20-30 only

[3]2 #1034 bulbs are used on panels and carryalls

[4]Used on 60-70-80 series with vacuum spinner governed engines

[5]Forward controls P20-30 only

[6]M70-tandem axle models only

[7]Double filament sealed beam 37.5W upper, 50W lower

[8]These items use the same fuse

CIRCUIT BREAKERS

Device or circuit protected	Amperes	Location
Headlamp and parking lamp circuit	15 AMP	Light switch
Two-speed rear axle (Eaton)	10 AMP	Engine compartment
Windshield wiper motor	10 AMP	Switch

REAR AXLE RATIOS

SINGLE SPEED AXLES

½ Ton .....3.38 or 3.90:1
¾ Ton 4.57:1
¾ and 1 Ton Forward Control 5.14:1
1 Ton 5.14:1
1½ Ton 6.17:1
2 Ton 6.60:1
2 Ton H. D. 7.20:1
2 Ton H. D. School Bus ..... 7.20:1 or 6.60:1
2½ Ton 7.17:1
2½ Ton H. D. 7.67:1
2½ Ton H. D. School Bus ..... 7.17:1 or 7.20:1

SINGLE SPEED AXLE

1½, 2 and 2½ Ton (Chevrolet) 6.40/8.72:1
2½ and H. D. 2½ Ton (Except School Bus and Tandem) (Eaton Hypoid) 6.50/9.04:1
H. D. 2½ Ton (Except School Bus and Tandem) (Eaton Spiral Bevel 6.50/8.87:1
7.17/9.77:1

SPARK PLUGS

Engine	Normal Service (Original Equip.)	Hotter Plug for City-type Operation	Colder Plug for Continuous heavy duty operation
½ to 1½ Ton L-6 and V-8 Except 261	AC-44	AC-45 or AC-46	AC-43 COM
2 to 2½ Ton L-6 and V-8 Including 261 Except 348	AC-42-1 COM	AC-43 COM	—
348 V-8	AC-42N COM	—	—

BREAKER POINT GAP

6 cylinder engines ..... .019" new lever / .016" used lever

Distributor points on 6-cylinder engine to break when steel ball in flywheel is in line with pointer on flywheel housing.

Octane selector should be set for the grade of fuel being used to produce a slight "ping" on acceleration.

UPDRAFT CARBURETOR

Idling Adjustment ..... ½ to 1½ turns open

DOWNDRAFT CARBURETOR

Idling Adjustment ..... 1 to 2½ turns open

ENGINE IDLING SPEED

With Conventional Transmission ..... 475 RPM
With Automatic Transmission ..... 450-475 RPM in Drive

VALVE CLEARANCES (Hot) L-6 Only

	½, ¾, and 1 Ton	1½ and 2 Ton
Intake	.006"	.006"
Exhaust	.018"	.020"

CLUTCH PEDAL TRAVEL

..... ⅛"

BRAKE SHOE RELEASE AFTER SLIGHT DRAG IS FELT

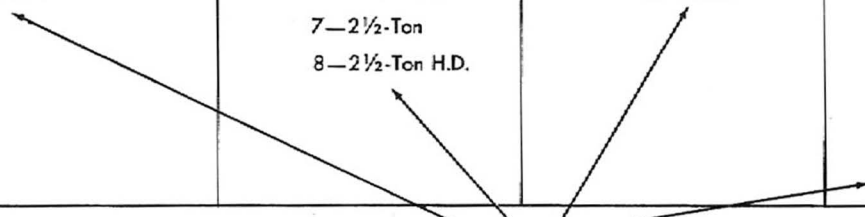
½ Ton (front and rear) ..... 7 adj. notches
¾ and 1 Ton (front and rear) ..... Just enough to eliminate drag
1½ and 2 Ton (front) .....
1½ and 2 Ton (rear) 2½ Ton (front and rear) ..... 3 adj. notches

TORQUE SPECIFICATIONS (ft. lbs.)

Wheel Nuts 7/16" x 20 45-65
½" x 20 65-90
⅝" x 20 250-275
Dual 450-500

SERIES AND MODEL IDENTIFICATION

BODY TYPE	NOMINAL RATING	CA DIMENSION (1½ TON & UP)	MODEL
C—Conventional	1—½—Ton	1—5 Ft.	02—F.F. Cowl
K—4-Wheel Drive	2—¾—Ton	2—6 Ft.	03—Cab-Chassis
P—Forward Control	3—1—Ton	3—7 Ft.	04—Pickup
L—L.C.F.	4—1½-Ton	5—8 Ft.	05—Panel
S—School Bus	5—2-Ton	6—9 Ft.	06—Sub. Carryall
M—Tandem	6—2-Ton H.D.	8—10 Ft.	09—Platform
	7—2½-Ton		12—W/S Cowl
	8—2½-Ton H.D.		16—Sub. Carryall
			34—Fleetside
			42—F.C. Chassis
			45—Step-Van



Example: C 5 3 03

COMMODITY WEIGHTS

BUILDING SUPPLIES (Other than Lumber and Stone)

	Pounds Per Cu Ft	Pounds Per Cu Yd
Asbestos	150	4050
Asphalt—lumps	85	2300
—paving	100	2700
—brick	125	3400
Brick—clay (6 lb each)	115	3100
—paving (8 lb each)	150	4050
—pressed (7 lb each)	130	3500
—soft (4½ lb each)	95	2550
—common	200	5400
—hard	240	6500
—paving block	325	8700
—fire	260	7000
Cinders	50	1350
Clay—dry lumps	85	2300
—moist loose	120	3200
—moist packed	135	3700
—fire	95	2500
Concrete—stone or gravel	150	4050
—dry mix	110	2950
—wet mix (avg)	140	3800
Earth—loam, dry	75	2050
—loam, moistened	90	2400
—loam, wet	110	3000
Gravel—dry	115	3100
—wet	125	3400

	Pounds Per Cu Ft	Pounds Per Cu Yd
Lime—hydrated	40	1050
—mortar	110	3000
—slaked	85	2300
Mud—flowing	105	2850
—packed	125	3400
Pitch	65	1800
Rock Wool	15	400
Sand—dry, coarse	95	2550
—dry, fine	100	2700
—wet, coarse	120	3250
—wet, fine	125	3400
—mixed, average	115	3100
Tar	65	1750
Terra Cotta	110	3000
Tile—partition	40	1100
—solid	115	3100

	Pounds	Per
Cement—Portland	94	bag
	376	barrel
—blocks 8" x 8" x 16"	41	each
—blocks 8" x 12" x 16"	57	each
Cinder Blocks—8" x 8" x 16"	34	each
—8" x 12" x 16"	43	each
Glass—common	165	cu ft
—¼" plate	3.3	sq ft

FARM & DAIRY PRODUCTS (Except Fruits & Vegetables)

	Pounds	Per
Alfalfa seed	60	bushel
Barley	48	bushel
Beef—dressed—200 lb barrel	254	barrel
Bluegrass Seed	44	bushel
Bran	20	bushel
Buckwheat	50	bushel
Butter—tub, 15" dia x 5¼"	23	tub
—tub, 15½" dia x 15"	70	tub
—30 lb case 10¼" x 8¼" x 10½"	32	case
—9 lb pail	10	pail
Calf—live (av per head)	150	each
Cheese—box, 15" dia x 5¼"	23	box
—box, 15" dia x 7¼"	36	box
Chickens—		
live, crate (20 chickens)	58	crate
live, crate (12 fowl)	78	crate
Std crate (empty) 23¾" x 35¼" x 13¼"	18	each
Cloverseed	60	bushel
Corn—dry, shelled	56	bushel
—dry, in ear	70	bushel
—green, sweet	43	bushel
—crate 17⅜"x12⅛"x24"	61	crate
Corn Meal	44	bushel
Cotton—		
gin bale 54" x 48" x 30"	510	each
std bale 56" x 24" x 28"	510	each
high-density bale 56" x 24" x 20"	510	each
rd bale 35" x 20"-22" dia	260	each
Cottonseed	30	bushel
Cow—live (avg)	980	each
—feeder (avg)	600	each
—butcher (avg)	800	each
—heavy steer (avg)	1100	each
Cream (see Liquids)		
Eggs—std 30 doz crate 12" x 12¼" x 26"	53	crate
Flaxseed	56	bushel
Flour—std 19⅛" hd; 30" stave	215	barrel

	Pounds	Per
Hay—baled 14" x 16" x 42"	100	bale
17" x 22" x 42"	115	bale
26" x 30" x 47"	220	bale
Hempseed	44	bushel
Hog—live (avg)	235	each
Horse—live (avg)	1350	each
Ice Cream—Std 5-gal can 9⅛" dia x 21"	35	can
—Std 2½-gal can 9" dia x 11"	18	can
Lamb—live (avg)	80	each
Lard	57	cu ft
light barrel 18¼" hd; 30" stave	425	barrel
Malt—barley	35	bushel
—rye	40	bushel
—dry or spent	50	bushel
Meal—corn	48	bushel
Millet (Hungarian Grass)	50	bushel
Oats	32	bushel
Popcorn—shelled	56	bushel
—ear	70	bushel
Pork—dressed 200 lb barrel	240	barrel
Rice—grain or unhulled	45	bushel
Rye	56	bushel
Sheep—live (avg)	140	each
Soybeans	60	bushel
Straw—baled		
—small bale 14" x 16" x 42"	100	bale
—avg bale 17" x 22" x 42"	115	bale
Sugar—bulk	100	cu ft
—bags (100 lb)	100	bag
—barrel 19⅛" hd; 30" stave	320	barrel
Sugar—wooden box (24 5-lb cartons)	135	box
(60 2-lb cartons)	135	box
Tallow	60	cu ft
Timothy Seed	45	bushel
Wheat	60	bushel
Wool	80	cu ft

FRUITS, VEGETABLES & NUTS

	Size Container	Size Container
Apples—fresh	bushel	48
—fresh, W box	11⅝"x12½"x19¾"	50
—fresh, NE box	11¾"x14½"x17½"	56
—fresh, std box	17⅛" hd; 28½" stave	160
—dried	bushel	24
Apricots—fresh	bushel	48
—fresh W box	11⅜"x12⅛"x19¾"	23
Artichokes—box	10"x11½"x22"	44
Asparagus—crate (pyramidal)		
—louse	11½" x (9¾" top,	38
—bunches	11" bottom) x 19⅜"	31
Avocado—box	5¾"x11¾"x17½"	16
—carton	4¼"x14¼"x30"	38

	Size Container	Lb per Container
Bananas—carton	4¼"x14¼"x17½"	38
—single stem	bunch	55
Beans—dry, white	bushel	60
—dry, castor	bushel	46
—dry, lima	bushel	56
—fresh, lima	Hamper (bushel)	30
—fresh, string	Hamper (bushel)	30
Beets—table	bushel	56
—with tops or clipped tops	bushel	45
—small crate	9¼"x13⅜"x24"	50
—W crate	13⅜"x18⅛"x24½"	93
Berries—crate 24 pt.	9¾"x 9¾"x20"	25
—crate 24 qt.	11⅛"x11⅛"x24"	48
—crate 32 qt	15½"x11⅛"x24"	63
Broccoli—bushel crate	12⅝"x12⅝"x17"	30
Brussel Sprouts		
—crate	7¼"x10½"x21⅜"	26
Cabbage		
—hamper	1½ bushel	57
—crate (½ bar)	12¾"x18½"x19"	59
—W crate	13⅜"x18⅛"x24½"	85
—crate (barrel)	12¾"x18¾"x37⅞"	110
Cantaloupe—crate		
—standard	12¾"x12¾"x23½"	68
—jumbo	13⅜"x13⅜"x23⅜"	78
—pony	11⅜"x11⅜"x23½"	57
—standard flat	5¼"x14¼"x23½"	28
—jumbo flat	5⅜"x15⅛"x23⅜"	32
—pony flat	4¾"x12¾"x23½"	26
Carrots—topped	bushel	56
—with tops	bushel	39
—crate	12¾"x19"x18½"	58
—crate	11¾"x14½"x24"	60
Cauliflower	bushel	31
—crate	9⅛"x18⅞"x24"	49
Celery—std crate	11¾"x22"x22⅜"	71
—½ crate	10¾"x13"x20⅜"	36
—⅔ N crate	16½"x21¼"x22"	87
Cherries—lug box	5½"x11⅛"x19¾"	17
Chestnuts	bushel	50
Coconuts	Burlap Bag (100)	160
Cranberries		
—½ barrel box	12¾"x14¾"x22"	61
—¼ barrel box	9½"x11"x14"	28
Cucumbers	bushel	55
—veg crate	9¾"x13¾"x24"	74
—wood case	5"x13¼"x19"	26
—paper case	5"x13"x17"	24
Eggplant	hamper (bushel	39
—pepper crate	14½"x11¾"x24"	54
Endive	bushel	25
—hamper	1½ bushel	36
Grapefruit		
—W box	11½"x11½"x23⅛16"	68
—S box	12⅜"x12⅜"x27"	90
Grapes	bushel	48
—W lug box	5¼"x16⅛"x17½"	29
—W keg	15½" hd; 14" stave	46
—basket	12 qt	19

	Size Container	Lb per Container
Greens	bushel	26
Hickory Nuts	bushel	45
Horseradish Roots	bushel	35
Kale	bushel	26
Lemons—S box	12¼"x12¾"x27"	90
—W box	10"x13"x24 15/16"	84
Lentils	bushel	60
Lettuce		
—hamper	bushel	25
—hamper	1½ bushel	38
—basket	8½"x11¼"x21¾"	17
—std crate	13¾"x17½"x24½"	76
—½ crate	9½"x13½"x24½"	40
Nectarines—W box	5⅝"x16¾"x17½"	27
Okra—hamper	½ bushel	18
—hamper	bushel	34
Onions—dry	bushel	56
	bag (17" x 32" flat)	50
—with tops	bushel	31
Oranges		
—bushel box	10¾"x10¾"x23½"	63
—W box	11½"x11½"x23 15/16"	78
—S box	12¾"x12¾"x27"	90
Parsley—bushel crate	12¾"x12¾"x17"	32
Parsnips	bushel	50
Peaches	bushel	48
	½ bushel	25
—crate	10½"x11¼"x24"	51
—W box	5½"x12¼"x19¾"	22
Peanuts	bushel	22
	burlap bag	100
Pears	bushel	50
—W box	9⅜"x12⅛"x19¾"	51
Peas—dried	bushel	60
—fresh (pods)	bushel hamper	35
Pecans—in shells	large bag	110
	small bag	51
Peppers—hamper	bushel	27
—crate	14½"x11¼"x24"	45
Pineapples—crate	11"x12½"x36"	90
Plums	bushel	57
—W box	5¾"x16⅛"x17½"	26
Pomegranates—box	6½"x12"x24⅜"	30
Potatoes—sweet	bushel	55
	bag	50
Potatoes—white	bushel	60
—crate	12" x16½"x22½"	72
—bag	1⅔ bushel	102
—barrel	17⅛" hd; 28⅛" stave	188
Prunes—W box	5⅝"x11⅛"x19¾"	22
—W box	5¼"x16⅜"x17½"	26
Quinces	bushel	48
Radishes		
—with tops	bushel	38
—small veg crate	9¾"x13¾"x24"	40
Raspberries—crate	24 qt	42
Rhubarb—box	5¼"x11½"x22"	24
Romaine—crate	12¼"x13"x15¼"	27
Root Crops	bushel	55
Rutabagas	bag	50
Spinach	bushel	27
—W hamper	bushel	20
Squash—summer	bushel	49
Strawberries—crate	24 qt	40
Tangerines (see oranges)		
Tomatoes	bushel	56
—lugbox	7 1/16"x14"x17½"	37
—crate	10½"x11¼"x24"	49
—basket	8¼"x 8½"x20"	18
—basket, paper	4¼"x 8½"x16¼"	9
Turnips	bushel	55
Walnuts—bag	2 bushel	100

LUMBER (Air Dried)

Kiln dried lumber—subtract 10-15% from air dried weights.

Green lumber—add 40-50% to air dried weights.

	Pounds Per Cu Ft	1000 Bd Ft
Ash—White	46	3830
Bamboo	22	
Basswood	30	2500
Beechwood	30	2500
Birch	48	4000
Cedar—Red or White	30	2500
Chestnut	37	3080
Cypress	34	2830
Elm—Soft	38	3165
—Rock	45	3750
Fir—Douglas	32	2670
Gumwood	37	3080
Hickory	54	4500
Mahogany	41	3415
Maple—Soft	39	3250
—Hard	47	3920
Oak—White	49	4080
—Red	48	4000
—Black	33	2750
Pine—White	49	4080
—Yellow Southern	45	3750
—Yellow Longleaf	41	3420
—Long Leaf	54	4500
Poplar	27	2250
Redwood	30	2500
Spruce	28	2330
Walnut	45	3750

Lath—Std length 29 in. Packed in bundles of 50. Av bundle, 9" dia—50 lb per bundle.

Plywood—¼" thick—.7 lb per sq. ft.

Shingles—Bundle of 200-250. Av size, 24" x 20" x 10".—50 lb per bundle.

METALS, MINERALS, ORES, ROCK, STONE, COAL

	Pounds Per Cu Ft	Cu Yd
Alabaster—gypseous	160	4300
Aluminum—cast	160	4300
—pure	165	4450
Andesite Stone	175	4750
Anthracite	100	2700
Antimony	420	11,350
Babbitt	440	11,900
Barytes—mineral	280	7550
Basalt rock	170	4600
Bauxite	160	4300
Block—paving stone	175	4750
Blumstone	110	2950
Borax	110	2950
Brass—cast	525	14,200
—drawn	545	14,700
—rolled	535	14,450
Bronze	550	14,850
Chalk	150	4050
Charcoal—oak	35	950
—pine	25	700
Coal—Anthracite, egg	62	1650
—Anthracite, lump	65	1750
—Anthracite, nut	58	1550
—Anthracite, pea	56	1500
—Anthracite, stove	60	1600
—Bituminous, loose lump	52	1400
—Bituminous, run-of-mine	57	1550
—Pocohontas, lump	50	1350
Coke—commercial	30	800
Copper—cast	550	14,850
—rolled	580	15,100
Columite	180	4850
Emery	250	6750
Feldspar	160	4300
Flint	185	5000
Granite—crushed	95	2550
—solid	170	4600
Graphite	170	4600
Greenstone—crushed	105	2850
—solid	185	5000
Gypsum	145	3900
Iron—cast	450	12,150
—rolled	480	12,950
Lead	710	19,150
Limestone—crushed	100	2700
—solid	160	4300
Magnesite	185	5000
Manganese	475	12,800
Marble	170	4600
Mica	185	5000
Nickel	550	14,850
Ore (avg)	120	3250
Peat	52	1400
Phosphate Rock	200	5400
Porcelain	150	4050
Quartz	165	4450
Rock—crushed (avg)	100	2700
Salt—rock, solid	135	3650
—coarse	45	1200
—fine	50	1350
Saltpeter	70	1900
Sandstone—crushed	85	2300
—solid	155	4200
Shale—crushed	95	2550
—solid	170	4600
Silica	135	3650
Silver	520	14,000
Slag—crushed	70	1900
—solid	175	4750
—screenings	85	2300
—furnace	125	3400
Slate	190	5100
Soapstone	170	4600
Steel—rolled	490	13,200
Stone—crushed	100	2700
Sulphur	125	3400
Talc	170	4600
Tin	460	12,400
Zinc	435	11,700

LIQUIDS

	Pounds Per Cu Ft	Pounds Per Gallon
Acetone	50	6.6
Alcohol—commercial	51	6.8
—proof spirits	57	7.7
Asphalt (asphaltum)	71	9.5
Benzene—petroleum	50	6.6
—tar	56	7.5
Carbolic acid	60	8.0
Castor Oil	61	8.1
Chloroform	92	12.4
Coconut Oil	58	7.8
Corn Syrup	86	11.5
Cottonseed Oil	58	7.7
Cream—30% butterfat	62	8.3
Creosote	69	9.2
Crude Oil	51	6.8
Fuel Oil	51	6.8
Gasoline	45	6.0
Glue	80	10.7
Honey	90	12.0
Kerosene	50	6.6
Linseed Oil	59	7.9
LP Gas (Also see Propane Gas)	32	4.2
Lubricating Oil	50	6.6
Milk—Bulk	64	8.6
Molasses	88	11.7
Naphtha	42	5.6
Olive Oil	58	7.7
Peanut Oil	57	7.6
Petroleum	55	7.3
Sorghum	85	11.4
Soybean Oil	58	7.7
Syrup	83	11.2
Tar	65	9.5
Turpentine	54	7.3
Vinegar	60	8.0
Water	63	8.4

	Size Container	Lb Per Cont
Beer—wood barrel	½ bbl (16 gal)	206
	¼ bbl (8 gal)	104
—steel barrel	½ bbl (16 gal)	188
	¼ bbl (8 gal)	96
Carton (24 12-oz bottles)		
—regular bottles	9¾"x11"x16¾"	42
—stubbie bottles	7"x12¼"x18"	36
—tin cans	5⅛"x11"x16¼"	24
Wooden Case (24 12-oz bottles)		
—regular bottles	10¼"x13½"x21"	41
Milk—5 gal can	10¼" dia x 19"	61
—10 gal can	13" dia x 23"	114
—crate		
(12 1-qt)	10¼"x14¼"x18¼"	63
(20 1-pt)	8¼"x14¼"x18¼"	55
Molasses—barrel		
(50 gal)	20¼" hd; 34" stave	675
Propane (LP) Gas	9⅜" dia x 21"	39
(cylinders)	12⅛" dia x 27½"	75
	12⅛" dia x 33½"	92
	14⅛" dia x 48½"	188
Soft Drinks		
—half-depth box		
(24 6- to 8-oz bottles)	8½"x12¼"x18¼"	40
—Full-depth box		
(12 24- to 36-oz bottles)	12¼"x13⅜"x18½"	60
Spirits—barrel		
(45 to 50 gal)	20¼" hd; 34" stave	
—186 proof or over		380
—130 to 186 proof		400

MISCELLANEOUS

	Pounds Per Cu Ft	Pounds Per Cu Yd
Ashes—coal, packed	45	1250
Bone	115	3100
Cork	15	400
Garbage—73% moist	45	1250
Paper—solid (avg)	60	1600
Paraffin	55	1500
Resin	65	1800
Snow—packed	50	1350
Starch	95	2550
Street Sweepings	30	850

	Pounds	Per
Fertilizer—commercial, burlap bag		
bags per ton—10	200	bag
—12	165	bag
—16	125	bag
—20	100	bag

	Pounds	Per
Fish—fresh, wooden barrel		
19" hd; 29" stave; 75" bilge circ	300	barrel
18½" hd; 23½" stave; 64½" bilge circ	160	½ barrel
Ice	58	cu ft
Std block 11"x22"x44"	320	block
Leather—dry	55	cu ft
—greased	65	cu ft
Oysters—shucked	11.5	gallon
Paint—lead and oil	17	gallon
Paper—newspaper rolls—		
35" dia x 34½" long	500	roll
35" dia x 51⅜" long	1000	roll
35" dia x 61¼" long	1300	roll
Wood—soft, dry	3500	cord
—soft, green	4000	cord
—hard, dry	4000	cord
—hard, green	5000	cord

MANUFACTURER'S WARRANTY

It is expressly agreed that there are no warranties, expressed or implied, made by either the Dealer or the Manufacturer on Chevrolet motor vehicles, chassis or parts furnished hereunder, except the Manufacturer's warranty against defective materials or workmanship as follows:

"The Manufacturer warrants each new motor vehicle, including all equipment or accessories (except tires) supplied by the Manufacturer, chassis or part manufactured by it to be free from defects in material and workmanship under normal use and service, its obligation under this warranty being limited to making good at its factory any part or parts thereof which shall, within ninety (90) days after delivery of such vehicle to the original purchaser or before such vehicle has been driven 4,000 miles, whichever event shall first occur, be returned to it with transportation charges prepaid and which its examination shall disclose to its satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on its part, and it neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale of its vehicles.

"This warranty shall not apply to any vehicle which shall have been repaired or altered outside of an authorized Chevrolet Service Station in any way so as in the judgment of the Manufacturer to affect its stability and reliability, nor which has been subject to misuse, negligence or accident. The Manufacturer has reserved the right to make changes in design or add any improvements on motor vehicles and chassis at any time without incurring any obligation to install same on motor vehicles and chassis previously purchased."

TIRE AND BATTERY WARRANTIES

The tires and battery furnished with your new Chevrolet carry separate warranties and should be registered with the nearest agent of the particular manufacturer. Your Chevrolet dealer will gladly assist you in this registration.

OWNER'S SERVICE POLICY

Upon delivery of your new Chevrolet truck, you received an Owner Service Policy which you should read carefully. Keep this policy with your truck during the warranty period as it serves to introduce the Owner to any Chevrolet dealer.

GROSS VEHICLE WEIGHTS FOR 1960 CHEVROLET TRUCKS AND SCHOOL BUSES

Model	Wheelbase	Gross Vehicle Weight	Gross Combination Weight	TIRES AND EQUIPMENT @						Mandatory Equipment Required for GVW Rating
				Front Suspension Capacity	Front Spring Capacity	Rear Axle Capacity	Rear Spring Capacity	Recommended Tires		
								Front	Rear	
C14	115	4300¢	—	2500	2500	3500	2500	6.70-15-4	6.70-15-4	
		4600		2500	2500	3500	2500	6.70-15-6	6.70-15-6	
		5000		2500	2500	3500	4000	6.50-16-6	6.50-16-6	RPO 254 Rear Springs
		5200¶		2500	2500	3500	4000	7-17.5-6	7-17.5-5	RPO 254 Rear Springs
K14 (4WD)	115	4900¢	—	3300	3300	3300	3300	6.70-15-6	6.70-15-6	
		5300		3300	3300	3300	3300	6.50-16-6	6.50-16-6	
		5600¶		3300	3300	3300	3300	7-17.5-6	7-17.5-5	
C15	127	4300¢	—	2500	2500	3500	2500	6.70-15-4	6.70-15-4	
		4600		2500	2500	3500	2500	6.70-15-6	6.70-15-5	
		5000		2500	2500	3500	4000	6.50-16-6	6.50-16-5	RPO 254 Rear Springs
		5200¶		2500	2500	3500	4000	7-17.5-6	7-17.5-6	RPO 254 Rear Springs
C20	127	5500¢	—	3000	2500	5200	4000	7-17.5-6	7-17.5-6	
		6000		3000	2500	5200	4000	7-17.5-6	8-17.5-6	
		6700		3000	2500	5200	4000	7-17.5-5	8-17.5-8	
		7500¶		3000	3000	5200	6000	8-19.5-5	8-19.5-8	RPO 329 Torsion Bar and RPO 254 Rear Springs
K25 (4WD)	127	5700¢	—	3500	3500	5200	3800	7-17.5-6	7-17.5-6	
		6100		3500	3500	5200	6300	8-17.5-6	8-17.5-6	RPO 254 Rear Springs
		6800		3500	3500	5200	6300	8-17.5-8	8-17.5-8	RPO 254 Rear Springs
		7200		3500	3500	5200	6300	8-19.5-6	8-19.5-6	RPO 254 Rear Springs
		7600¶		3500	3500	5200	6300	8-19.5-8	8-19.5-8	RPO 254 Rear Springs
P23	104	5600¢	—	4000	4000	5200	4800	7-17.5-6	7-17.5-6	
P25	125	6200		4000	4000	5200	4800	7-17.5-6	8-17.5-6	
P26	137	7000¶		4000	4000	5200	4800	8-17.5-6	8-17.5-8	
C30	133	6700¢	—	3500	3000	7200	4800	8-17.5-6	8-17.5-8	
		7800		3500	3000	7200	8300	8-19.5-6	8-19.5-10	RPO 254 Rear Springs
		9000		3500	3000	7200	8300	7-17.5-6	7-17.5-6D	RPO 254 Rear Springs
		10000¶		3500	3500	7200	8300	7-17.5-6	8-17.5-8D	RPO 329 Torsion Bar Equipment and RPO 254 Rear Springs

GROSS VEHICLE WEIGHTS FOR 1960 CHEVROLET TRUCKS AND SCHOOL BUSES—Continued

Model	Wheelbase	Gross Vehicle Weight	Gross Combination Weight	TIRES AND EQUIPMENT @						Mandatory Equipment Required for GVW Rating
				Front Suspension Capacity	Front Spring Capacity	Rear Axle Capacity	Rear Spring Capacity	Recommended Tires		
								Front	Rear	
P33	104	7500¢		4000	4000	7200	4800	8-19.5-6	8-19.5-6	
P35	125	10000¶	—	4000	5000	7200	6900	8-19.5-6	8-19.5-6D	RPO 255 Front Springs, RPO 462 (Tire Equipment, HD Rear Springs)
P36	137									
C41	133	10000¢	—	4000	3500	11000	10000	8-19.5-6	8-19.5-6D	
		12000		4000	3500	11000	12700	8-19.5-6	8-19.5-8D	RPO 254 Rear Springs and RPO 212 Brake Booster Equipment
C43	157	14000¶		4000	4000	11000	12700	8-19.5-6	8-19.5-10D	RPO 329 Torsion Bar, RPO 254 Rear Spring, and RPO 212 Brake Booster
C51S	133	15000¢	25000	5000	4400	13000	15000	8-22.5-8	8-22.5-8D	
C52S	145									
C53S	157									
C55S	175									
L52S	133	15000¢	25000	5000	4400	13000	15000	8-22.5-8	8-22.5-8D	
L53S	145									
L55S	175									
C61S	133	15000¢	32000	5000	5000	15000	15000	8-22.5-8	8-22.5-8D	
C62S	145									
C63S	157									
C65S	175									
C68S	197									
L61S	121	15000¢	32000	5000	5000	15000	15000	8-22.5-8	8-22.5-8D	
L62S	133									
L63S	145									
L66S	175									
L69S	197									
C51	133	14000¢	25000	5000	4400	13000	15000	8-22.5-8	8-22.5-8D	
C52	146									
C53	157	16000¶		5000	4400	13000	15000	8-22.5-8	8-22.5-10D	
C55	175									

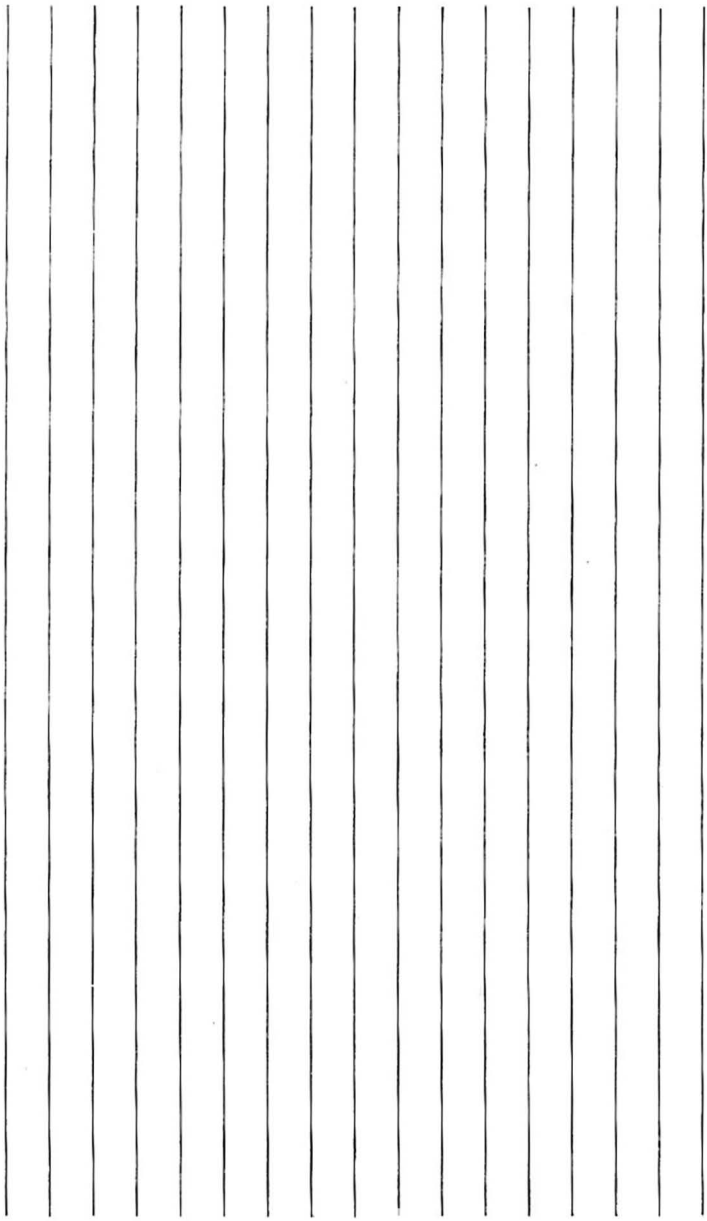
L52 L53 L56	133 145 175	14000¢ 16000¶	25000	5000 5000	4000 4000	13000 13000	15000 15000	8-22.5-8 8-22.5-8	8-22.5-8D 8-22.5-10D	
C61 C62 C63 C65 C68	133 145 157 175 197	15000¢ 17000 19500¶	32000	5000 5000 5000	5000 5000 5000	15000 15000 15000	15000 17200 18400	8-22.5-8 8-22.5-8 9-22.5-10	8-22.5-8D 9-22.5-10D 10-22.5-10D	 RPO 254 Rear Springs RPO 595 Rear Springs
L61 L62 L63 L66 L69	121 133 145 175 197	15000¢ 17000 19500¶	32000	5000 5000 5000	5000 5000 5000	15000 15000 15000	15000 17200 18400	8-22.5-8 8-22.5-8 9-22.5-10	8-22.5-8D 9-22.5-10D 10-22.5-10D	 RPO 254 Rear Springs RPO 595 Rear Springs
C61H⊕ C62H⊕ C63H⊕ C65H C68H	133 145 157 175 197	15000 18500 22000*¶	32000	7000	6000	16000	20800	8-22.5-8 8-22.5-8 9-22.5-10	8-22.5-8D 9-22.5-10D 10-22.5-10D	RPO 404 Heavy-Duty Equipment Plate Option specifies that the following equipment must be used: RPO 219 (HD Front Suspension, RPO 329 Torsion Bar Equipment, RPO 467 (HD Rear Axle, HD Rear Springs and Midland Vacuum Brake Booster), and RPO 235 HD Frame Inner Reinforcements.**
L61H⊕ L62H⊕ L63H⊕ L66H L69H	121 133 145 175 197	15000 18500 22000*¶	32000	7000	6000	16000	20800	8-22.5-8 8-22.5-8 9-22.5-10	8-22.5-8D 9-22.5-10D 10-22.5-10D	RPO 404 Heavy-Duty Equipment Plate Option specifies that the following equipment must be used: RPO 219 (HD Front suspension), RPO 329 Torsion Bar Equipment, RPO 467 (HD Rear Axle, HD Rear Springs and Midland Vacuum Brake Booster), and RPO 235 HD Frame Inner Reinforcements.**

GROSS VEHICLE WEIGHTS FOR 1960 CHEVROLET TRUCKS AND SCHOOL BUSES—Continued

Model	Wheelbase	Gross Vehicle Weight	Gross Combination Weight	TIRES AND EQUIPMENT @						Mandatory Equipment Required for GVW Rating
				Front Suspension Capacity	Front Spring Capacity	Rear Axle Capacity	Rear Spring Capacity	Recommended Tires		
								Front	Rear	
S53	157	10500¢	—	5000	5000	13000	15000	7-22.5-8	7-22.5-8D	
		14000		5000	5000	13000	15000	8-22.5-8	8-22.5-8D	
		16000¶		5000	5000	13000	17200	8-22.5-10	8-22.5-10D	RPO 254 Rear Springs
S62	197	15000¢	—	5500	5000	13000	15000	8-22.5-8	8-22.5-8D	
		17000		5500	5000	13000	17200	9-22.5-10	9-22.5-10D	RPO 254 Rear Springs
		19500¶		7000§	6000§	18400	15000	10-22.5-10	10-22.5-10D	RPO 219 Front Suspension and RPO 595 HD Rear Springs, RPO 698 or 201 Rear Axle
S64	225½	21000*		7000	6000	15000	18400	10-22.5-10	10-22.5-10D	RPO 219 Front Suspension and RPO 595 HD Rear Springs, RPO 698 or 201 Rear Axle
S67	243	15000¢	—	5500	5000	15000	17200	8-22.5-8	8-22.5-8D	
		17000		5500	6000	15000	17200	9-22.5-10	9-22.5-10D	
		19500¶		7000	6000	15000	18400	10-22.5-10	10-22.5-10D	RPO 219 Front Suspension and RPO 254 Rear Springs
		21000*		7000	6000	15000	18400	10-22.5-10	10-22.5-10D	RPO 219 Front Suspension and RPO 254 Rear Springs
S77 S79	243 261½	15000¢	—	7000	6000	15000	17200	8-22.5-8	8-22.5-8D	
		18000		7000	6000	15000	17200	9-22.5-10	9-22.5-10D	
		19500		7000	6000	15000	18400	10-22.5-10	10-22.5-10D	RPO 254 Rear Springs
		23000¶		7000	7000	16000	20800	10-22.5-10	10-22.5-10D	RPO 467 or 202 Rr. Axle & Springs, & RPO 329 Torsion Bar
C71 C72 C73 C75 C78	133 145 157 175 197	15000¢	42000	7000	5000	16000	17200	8-22.5-8	8-22.5-8D	
		18500		7000	5000	15000	18400	8-22.5-8	9-22.5-10D	RPO 254 Rear Springs
		23000¶		7000	6000	16000	20800	9-22.5-10	10-22.5-10D	RPO 329 T-Bar, RPO 595 Rear Springs

L71 L72 L73 L76	121 133 145 175	15000¢	42000	7000	5000	16000	17200	8-22.5-8	8-22.5-8D	
		18500		7000	5000	16000	18400	8-22.5-8	9-22.5-10D	RPO 254 Rear Springs
		23000¶		7000	6000	16000	20800	9-22.5-10	10-22.5-10D	RPO 329 Torsion Bars and RPO 595 Rear Springs
C81 C82 C83 C85 C88	133 145 157 175 197	18500¢	48000	7000	6000	18000	18400	9-22.5-10	9-22.5-10D	
		22000		7000	5000	18000	20800	9-22.5-10	10-22.5-10D	RPO 254 Rear Springs
		25000¶		7000	7350	18000	23000	10-22.5-10	11-22.5-12	RPO 329 Torsion Bar, RPO 595 Rear Springs, and RPO 233 HD Frame Reinforcements
L81 L82 L83 L86	121 133 145 175	18500¢	48000	7000	6000	18000	18400	9-22.5-10	9-22.5-10D	
		22000		7000	6000	18000	20800	9-22.5-10	10-22.5-10D	RPO 254 Rear Springs
		25000¶		7000	7350	18000	23000	10-22.5-10	11-22.5-12D	RPO 329 Torsion Bar, RPO 595 Rear Springs & RPO 233 HD Frame Reinforcements
M73 M75 M78	157 175 193	24000¢	50000	7000	7350	32000	34500	8-22.5-8	8-22.5-8D	
		30000		7000	7350	32000	34500	8-22.-8	9-22.5-10D	
		35000¶		7000	7350	32000	34500	9-22.5-10	10-22.5-10D	

¢—Tires shown are included in base price.
¶—GVW shown on base plate, however, GVW ratings are reduced per the above table when tires and/or equipment of less capacity are used.
@—Minimum equipment and tires shown for each GVW rating, extra ply rating and/or oversize tires and equipment are available.
*—RPO GVW plate.
§—This equipment is not mandatory for the 19500 pound GVW rating on model S82, however, it is available optionally.
**Please refer to RPO 404 for other optional equipment available on 60H models.
⊕—RPO 235 H.D. inner frame reinforcements are mandatory on these models only.



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